DOCUMENT RESUME

ED 055 680 RC 004 967

TITLE	National Center for the Training of Educational Resource Agents to Serve Rural Minorities. The Preparation of Problem Solving/Development/Diffusion Personnel to Serve Rural/Minority/Culturally Limited Populations.
INSTITUTION	Tuskegee Inst., Ala.
PUB DATE	15 Dec 70
NOTE	260p.
EDRS PRICE	MF-$0.65 HC-$9.87
DESCRIPTORS	American Indians; *Change Agents; Culturally Disadvantaged; Diffusion; Educational Strategies; Mexican Americans; *Minority Groups; *Models; Negroes; *Professional Training; Program Planning; Resource Staff Role; *Rural Population

ABSTRACT

A blueprint for Educational Resource Agents (ERA's) has been compiled by a consortium consisting of the National Federation for the Improvement of Rural Education, Tuskegee Institute, New Mexico State University, University of North Dakota, Northwest Regional Educational Lab., Southwestern Cooperative Educational Lab., Appalachia Educational Lab., and Southeastern Education Lab. A 42-month cooperative thrust is proposed to train 48 recruits as ERA's. Design stresses effective communication within a rural, culturally limited, minority school setting with a high degree of generalizability for the urban counterpart. Program elements include performance criteria/accountability; 1-week key staff training at Tuskegee Institute; 2-week common core teaching; rotation of participants through all field, lab, and campus components; 4-week rotational internship in rural schools and kindred agencies settings; and a trends seminar. Recruits from 3 test states with heavy minority populations (Alabama, Black; New Mexico, Chicano/Indian; and North Dakota, Indian) will be educators who are high communicators having peer acceptance from target populations. Purposive dissemination and internal-external evaluation are built-in. National needs and job opportunities for ERA's have been established via the Clark and Hopkins survey. (Author/BO)

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NATIONAL CENTER FOR THE TRAINING OF EDUCATIONAL RESOURCE AGENTS TO SERVE RURAL MINORITIES

The Preparation of Problem Solving/Development/Diffusion Personnel to Serve Rural/Minority/Culturally Limited Populations

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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Project Applicant: TUSKEGEE INSTITUTE
TUSKEGEE INSTITUTE, ALABAMA

Project Initiator and Coordinator: NATIONAL FEDERATION FOR THE IMPROVEMENT OF RURAL EDUCATION

December 15, 1970

1/2

PREFACE STATEMENT

Diverse social institutions and processes have been subjected to penetrating analysis during the period of 1960-1970. Those entities examined have included the law, housing, auto safety, education, diet-nutrition, the Vietnam War and an array of others. Such probes have simultaneously bestowed insight and blurred vision concerning the nature of the problems and purported solutions. Schoolmen, philosophers, and social visionaries have historically stated that universal education would place the people in command of fundamental information. Accurate information was, in classical context, supposed to lead to correct decisions which in turn would result in viable social policy. Fruits of the educational process, high levels of literacy have not led to social integration as was formerly suspicioned. Different vested interest groups have made differential applications of information as suited their needs.

Ten years of analysis have witnessed numerous attempts to reform the schools. Title III of the Elementary and Secondary Act, 1965 carried the initial intent of risk-oriented but promising instructional programs. The Education Professions Development Act, 1968, was designed to underwrite and encourage experimental school personnel training programs. Many of these reform ventures have failed. Various scholars have attempted to articulate the causal factors behind such failures. The remainder of this preface statement will be devoted to a treatment of opinions of diverse writers discussing the apparent inability of the schools to respond to change demands.

Dr. Gittel, Director, Institute for Community Studies, Queens College, has noted that a capstone failure collected under the term, "political failure", is characterized by inertness of the central office subsystem.[1] An insulated cadre of professional elite issues policies and programs which tend to reinforce the position of the administrators. It is to be noted that the recently appointed executive officer of the New York City Board of Education is labelled Chancellor as opposed to the former superintendent title. This is suggestive of semantic effort to break out of a programmatic impasse. The poor of the community view issued programs as rife with indignities and irrelevancies. New York City decentralization was achieved in response to the "Bundy Plan". Jonathon Black has observed that this attempt to redistribute power to geographical sub-districts has proved to be a decisive political failure.[2] Black further notes that the "street academy" is ghetto self-inspired to effectively decentralize.

A second annual (1970) CFK (Kettering) Limited financed study conducted by Gallup International was designed to tap a series of national attitudes toward the schools.[3] Forty-three

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[1]News & Notes, Danforth Foundation, VI: 1:4-5, September, 1970.

[2]Ibid.

[3]George Gallup, "Second Annual Survey of Public's Attitude Toward Public Schools, Phi Delta Kappan, LI:2:109, October, 1970.

percent of the junior and senior respondents felt that their high schools were not interested enough to try new ideas. The same group responded in a strength of fifty-eight percent that school curriculum needed to be changed to meet community needs.

A Carnegie Corporation commissioned study completed by Charles E. Silberman entitled CRISIS IN THE CLASSROOM[4] was four years in completion. Mr. Silberman has been characterized by an influential reviewer as having asked the right questions concerning the plight of the schools.[5] Silberman's status conclusions are far too numerous to treat in a synoptic fashion, but some highlights include: (1) personnel suffer from teacher blight, a social pathology occurring from low rank in the peck order and deadening work conditions; (2) curricula is often outmoded and ill-fitted to the needs of the day; (3) social control methods are often oppressive and tend to mould the individual pupil toward a common likeness; (4) testing, grading and marking regimen are ineffective; and (5) American schooling is not purposeful, a heavy cultural task-orientation denies the value of meaning in general studies.

Much of the contemporary attempt to reform education has met with failure in that accurate and current research and development information inputs were lacking at the antecedent design and planning level. While the ERIC movement has been

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[4]Silberman, Charles E., Crisis in the Classroom, Random House, 1970. Also, editorial, "Joyless Classrooms," New York Times, October 9, 1970, p. 36-L.

[5]Jennings, Frank G., book review, Saturday Review, October 17, 1970, pp. 66-68.

in effect for four years, few school districts and universities possess personnel facile in its use and potential. Information specialists capable of creatively bridging the gap between research information and production of specifically designed instructional products are extremely scarce. Earlier graduate programs have produced personnel adroit in basic and applied research production. Few preparation programs exist to capitalize upon such research in the forms of product development and its subsequent dissemination and implementation.

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APPENDIX

EXECUTED COPIES OF OFFICE OF EDUCATION FORMS 6022

EXECUTIVE SUMMARY

PART I

ACTIVITIES OF THE DESIGN PHASE

(June 18 - December 18, 1970)

Date	Place Visited	Consultation	
		Consortium Representatives	Personnel Consulted
April 15	Washington, D. C.	Edward Krahmer	Staff of ERTP, Staff of U. S. Office of Education
May 8	Washington, D. C.	Executive Committee of NFIRE	John Egermier U. S. Office of Education
May 18-25	By Telephone	John Codwell Edward Krahmer	Everyone listed as project staff plus, the two key consultants, Everett Rogers and Ronald Havelock
May 20	Bismarck, N. D.	Edward Krahmer	Vernon Eberly
May 24	Tuskegee, Ala.	John Codwell	B. D. Mayberry Theodore Pinnock

tion Personnel Consulted	Consortium Interest	Information Gained
Staff of ERTP, Staff of U. S. Office of Education	New directions for ERTP	Gained awareness of possibility of diffusion training
John Egermier U. S. Office of Education	New directions for ERTP	Obtained RFP and discussed procedures for submitting a grant proposal. Also discussed need of such training for rural/minority disadvantaged.
Everyone listed as project staff plus, the two key consultants, Everett Rogers and Ronald Havelock	Commitment of individuals and/or their institutions to this project	All persons contacted including the key consultants agreed to participate.
Vernon Eberly	Discussed N. Dakota SEA's involvement in diffusion training program	Received letter of interest in exploring further this program
B. D. Mayberry Theodore Pinnock	In-put for proposal for training of diffusion personnel	Desired in-put plus Tuskegee's and NFIRE's commitment were obtained

Date	Place Visited	Consultation	
		Consortium Representatives	Personnel Consulted
July 15	Atlanta, Georgia	John Codwell Edward Krahmer Theodore Pinnock Walter Oldham	John Egermier and consultants for project
July 24	Washington, D. C.	John Codwell Edward Krahmer Walter Oldham	Lee Burchinal Thomas Clemens
August 11-12	Las Vegas, Nevada	Members of NFIRE Exec. Committee Theodore Pinnock B. D. Mayberry Walter Oldham	All participants
August 14	University of North Dakota	Edward Krahmer	Lowell Jensen
August 15	University of North Dakota	Edward Krahmer	Harvey Jacobson

ation Personnel Consulted	Consortium Interest	Information Gained
John Egermier and consultants for project	Take-off procedures for preparation of proposal — procedures, calendar, etc.	Suggestions for division of labor functions for members of management team and consultants were given.
Lee Burchinal Thomas Clemens	Aspects of input for proposal	Persons consulted manifested enthusiasm with multi-cultural approach.
All participants	Progress report — diffusion personnel training proposal	Received added input for proposal preparation
Lowell Jensen	Discussion of proposed project	Received indication of interest in being one of the participating states
Harvey Jacobson	Possible interest in the development of a diffusion training program	Commitment was obtained and previous work in environmental change process was revealed.

Date	Place Visited	Consultation		Co
		Consortium Representatives	Personnel Consulted	
Aug. 17-23	Tuskegee Institute	T. J. Pinnock	George Akers M. C. Martin	Di pr in St
Aug. 22	University of North Dakota	Edward Kranmer	Harvey Jacobson Keith Stramm Clyde Morris	Fu of ir fu po
Sept. 11	Tuskegee Institute	John E. Codwell Edward Krahmer Theodore Pinnock	Consortium Conference	Pr
Sept. 17-18	ERIC/CRESS Dove Learning Center; Educational Research Center N.M.S.U.	Edward Krahmer	Don Croft, Director Dove; Darrell Willey, Director, Educational Research Center; E. D. Edington, Director, ERIC; C. D. Hall, Assoc. Director, ERIC	I t r
Sept. 23-24	Research and Development Office, State Dept. of Ed. Santa Fe	E. D. Edington C. D. Hall	Dr. Phil Barck, new director of office	C o S

sultation			
es	Personnel Consulted	Consortium Interest	Information Gained
	George Akers M. C. Martin	Discussion of proposed project and the involvement of Florida State University	Florida State University would cooperate in recruitment, training, and placement.
r	Harvey Jacobson Keith Stramm Clyde Morris	Further consideration of North Dakota's interest in the diffusion training component	It was decided that the first two people would prepare diffusion training component with the third person serving as reactor.
ll r ock	Consortium Conference	Progress on Proposal	Division of labor assignments for writing proposal were given.
r	Don Croft, Director Dove; Darrell Willey, Director, Educational Research Center; E. D. Edington, Director, ERIC; C. D. Hall, Assoc. Director, ERIC	Inventory of institutional personnel resources	Gathered inventory.
on	Dr. Phil Barck, new director of office	Cooperative aspects of pending proposal—SDE's role	Received expression of willingness to cooperate

Date	Place Visited	Consultation		Co
		Consortium Representatives	Personnel Consulted	
Oct. 2	Washington, D. C.	John E. Codwell	John Caulsen Thomas Clemens	Di Pr
Oct. 2	Michigan State University Lansing, Michigan	John Codwell Edward Krahmer Theodore Pinnock	Ronald Havelock Floyd Shoemaker	Di fo
Oct. 10	University of North Dakota Grand Forks, North Dakota	Edward Krahmer	Harvey Jacobson Keith Stramm	Re dr to at Cr
Oct. 19	Washington, D. C.	John Codwell Edward Karhmer	C. D. Hall	Ho me fi tr
Oct. 21	University of North Dakota	Edward Krahmer	Harvey Jacobson	Di ga an
Oct. 23	University of North Dakota	Edward Krahmer	Lowell Jensen Vernon Eberly M. F. Peterson	

ltation Personnel Consulted	Consortium Interest	Information Gained
John Caulsen Thomas Clemens	Discussion of related Projects	Arrangement of visit to University of Missouri
Ronald Havelock Floyd Shoemaker	Discussion of input for proposal	Received in-put for initial status of proposal.
Harvey Jacobson Keith Stramm	Review preliminary draft for presentation to Tuskegee-NFIRE team at Des Moines and Las Cruces	While several suggestions were made for revision, the basic document was felt to be adequate for the purposes of the Des Moines and Las Cruces meeting.
C. D. Hall	How proposed experimental schools might fit into diffusion training project	Status of experimental school program very uncertain at this time.
Harvey Jacobson	Discussed reactions gained from Des Moines and Las Cruces meetings	North Dakota personnel felt they could finalize the diffusion component.
Lowell Jensen Vernon Eberly M. F. Peterson		Received commitment of the SEA to participate subject to final review of the preliminary draft of the proposal.

Date	Place Visited	Consultation		
		Consortium Representatives	Personnel Consulted	
Oct. 23	University of North Dakota	Edward Krahmer	Department Chairman of Speech and Journalism	
Oct. 23-27	Florida State University	T. J. Pinnock	George Akers M. Schavers	
Oct. 26	University of Missouri Columbia, Mo.	John Codwell Edward Krahmer	Charles Koelling	
Oct. 27	University of North Dakota	Edward Krahmer	Harvey Jacobson	
Nov. 3	University of North Dakota	Edward Krahmer	William Koenker	
Nov. 5-10	Atlanta, Georgia	John Codwell Edward Krahmer Theodore Pinnock Walter Oldham Darrell Willey Lewis Jones	All Participants	

nsultation		Consortium Interest	Information Gained
	Personnel Consulted		
	Department Chairman of Speech and Journalism	Generally reviewed status of program	Agreed to support this program
	George Akers M. Schavers	Team approach to training in research	Received commitment from School of Adult Education to help
	Charles Koelling	Design and operative aspects of training program in a three state utilization project	Received input about three state utilization project and volunteered statement of cooperation from Dr. Koelling.
	Harvey Jacobson	Reviewed final document for the diffusion training component	Result was considered to be very usable.
	William Koenker	Reviewed training design	Received letter of commitment for University of North Dakota's involvement in this project
k	All Participants	Combining portions of proposal	Finalized first draft of proposal

Date	Place Visited	Consultation		Co
		Consortium Representatives	Personnel Consulted	
Nov. 6	University of Michigan Mansing, Michigan	Edward Krahmer Walter Oldham	Ronald Havelock	Di gr of
Nov. 13	Washington, D. C.	John E. Codwell	John Egermier	Ha dr U. Ed
Nov. 18	University of North Dakota	Edward Krahmer	Harvey Jacobson Keith Stramm	Pr th th
Nov. 20	Atlanta, Ga.	Edwin Hilderbrand Director of Project Spread Denver, Colorado	John E. Codwell	Di in Sp NE
Nov. 20	North Dakota Department of Public Instruction Grand Forks, North Dakota	Edward Krahmer	Dr. Lowell Jenson Director of Planning and Evaluation	Pr th hi
Nov. 21	By telephone	Edward Krahmer	Rowan Stutz Floyd Shoemaker	W a d d

tion Personnel Consulted	Consortium Interest	Information Gained
Ronald Havelock	Discussion of progress in preparation of proposal	Gained information relative to finalizing first draft of proposal.
John Egermier	Hand delivered first draft of proposal to U. S. Office of Education	Kind of feedback to be received from those reading proposal.
Harvey Jacobson Keith Stramm	Presented a copy of the first draft for their perusal	Obtained a critical review of total proposal
John E. Codwell	Discussion of mutual interests of Project Spread and Tuskegee/ NFIRE project	Information relative to expanded role of diffusion personnel
Dr. Lowell Jenson Director of Planning and Evaluation	Presented a copy of the first draft for his perusal	A reaction to this program was promised along with a final indication of the support of this program by the N. D. Department of Public Instruction
Rowan Stutz Floyd Shoemaker	Willingness to serve as reactor to first draft of training design proposal	Agreed to serve in this capacity with reactions to be submitted in writing, if possible, to John Codwell

Date	Place Visited	Consultation		C
		Consortium Representatives	Personnel Consulted	
Nov. 24	Washington, D. C.	John E. Codwell B. D. Mayberry F. T. McQueen	John Egermier	(
Nov. 25	University of North Dakota	Edward Krahmer	Dr. William C. Koenker, Academic Vice-President	D d
Dec. 2	By telephone	Edward Krahmer	Ronald Havelock	W a d d
Dec. 4-9	Atlanta, Ga.	John Codwell Lewis Jones Edward Krahmer Walter Oldham Theodore Pinnock Darrell Willey	All participants	P f J
Dec. 11	Washington, D. C.	John E. Codwell Edward Krahmer Theodore Pinnock	John Egermier	H d U a r P

n ersonnel onsulted	Consortium Interest	Information Gained
Egermier	(1) Reactions to first draft of proposal submitted (2) What are next steps?	(1) Informal feedback from first draft of proposal submitted (2) Printed and oral directions for preparation of final draft of proposal
William C. ker, Academic -President	Discussed the first draft of the proposal	Received indication of continued interest in this project
ld Havelock	Willingness to serve as reactor to first draft of training design proposal	Agreed to serve in this capacity with reactions to be submitted in writing, if possible, to John Codwell.
participants	Provided input for final draft of project proposal	Completed preparation of final draft of project proposal
n Egermier 6	Hand delivered final draft of proposal to U. S. Office of Educ. and answered questions raised relative to proposal contents	

PART II

THE PROJECT DESIGN

A. Statement of the Project

B. Overarching Rationale Under Which Newly Designed Training Programs are to be Integrated

C. Objectives

D. Project Involvements

A. STATEMENT OF THE PROJECT

1. Introduction

This is a project designed to develop educational resource agents (problem-solving = development = diffusion personnel) for their appropriate involvement in the education of certain rural minority populations. (See Figure A-I), Page 14.

Ethnic components in the rural minority populations to be served by the project are blacks, Indians, Mexican-Americans, and culturally limited whites. Specific geographical areas directly involved are the southwestern, mid-western, and southeastern portions of the United States. Target states in which pilot training programs will be conducted are Alabama, New Mexico, and North Dakota.

The limitation of this training program to the rural populations indicated is neither to state nor imply that other groups in the American culture could not profit from such a program. It is only to emphasize the critical waste of human talent resulting from the limited opportunities available to rural blacks, Indians, Mexican-Americans, and culturally limited whites as related to educational preparation in general and educational resource agent training in particular.

2. Definition of Special Terms

Most of the terms used in this proposal are common to American vernacular. However, a few of the basic expressions, because of their limited usage and the novelty of their utilization in this project, merit interpretation in order that a concensus definition may result.

Change:

Any significant alteration in the status quo, but in the context of this project, this will mean an alteration which is intended to benefit the people involved.

Change Agent:

A person who facilitates planned change or planned innovation.

Change Process (Innovation Process):

The method by and through which the change or innovation comes about.

Client:

A person or group which the change agent chooses to serve.

Client System:

Equivalent to "client" but indicating the fact that the "client" is usually a group of people who are interrelated and at least partly interdependent.

Content Training Centers:

The institutions serving as the sponsoring agencies for the theoretical content of this training design (Tuskegee Institute, University of North Dakota, New Mexico State University, and Northwest Regional Educational Laboratory). Serving as sponsoring agency does not, however, limit training staff personnel to institutional personnel.

Coordinating Institutions:

The three institutions of higher education (Tuskegee, University of North Dakota, New Mexico State University) which, besides serving as content training centers, are also responsible for internship and on-the-job experiences in cooperation with the State Education Agency, Intermediate Educational Agency, and Local Educational Agency for a target state.

Cooperating Institutions:

Other potential content training centers which are serving to provide personnel resources to this training design while assessing its effectiveness for future implementation.

Culturally Limited:

Population categories which are frequently referred to as disadvantaged.

Development:

Includes knowledge and research sources; content; particular user needs; adaptation of sources, research, and content to users; field test and readaptation.

Diffusion:

The process by which new ideas are communicated to members of a social system. The process which utilizes information consumption, social interaction, and behavior modification to aid in incorporating innovation into an individual, a group, or a system.

Educational Resource Agent:

Personnel educated in problem solving, development, and diffusion processes in order that they may be able to link created and interpreted knowledge to the ultimate educational leader.

Intermediate Educational Agency (IEA):

An agency serving multiple schools, the traditional IEA has been the county unit; Title III and other regional projects; college extension services; and the newer multi-county educational service centers are modern day examples.

Internship:

A four week summer experience where the trainee will be placed in a cultural setting working with an educational activity to further cultural awareness and to afford an opportunity for practice of the skills in which the trainee has been educated.

Linkage:

What exists between knowledge development and knowledge utilization.

Local Educational Agencies (LEA):

A public school district operating phases or the totality of a K - 12 educational program.

Monitoring:

Follow through related to compliance with proposal intent.

On-the-Job Experience:

Supervised experience, in addition to the internship, providing the trainees through their employment in on-the-job training centers during the years intervening between the summers of this training program.

On-the-Job Training Centers:

The SEAs, IEAs, and LEAs of each target state selected to serve as employers of the trainees during at least the two years intervening between the three summers of training.

Prime Contractor:

The institution holding collective project funding and performing monitoring, accounting, evaluation, and reporting functions - Tuskegee Institute, Tuskegee Institute, Alabama.

Problem Solving:

The process by which clients or users satisfy their needs. The process of planned innovation may be considered as one form of problem solving.

Resources:

Persons or things which can be used to improve practices and processes. Resources may be available both inside and outside the client system.

Resource Person:

A person who is a resource or who is a provider of resources. The change agent is one type of resource person.

Resource System:

An interrelated set of people and organizations capable of providing resources. For example, a state university which provides field services, extension courses, pre-service and in-service teacher training is a resource system for the school districts of the state.

Rural Minorities:

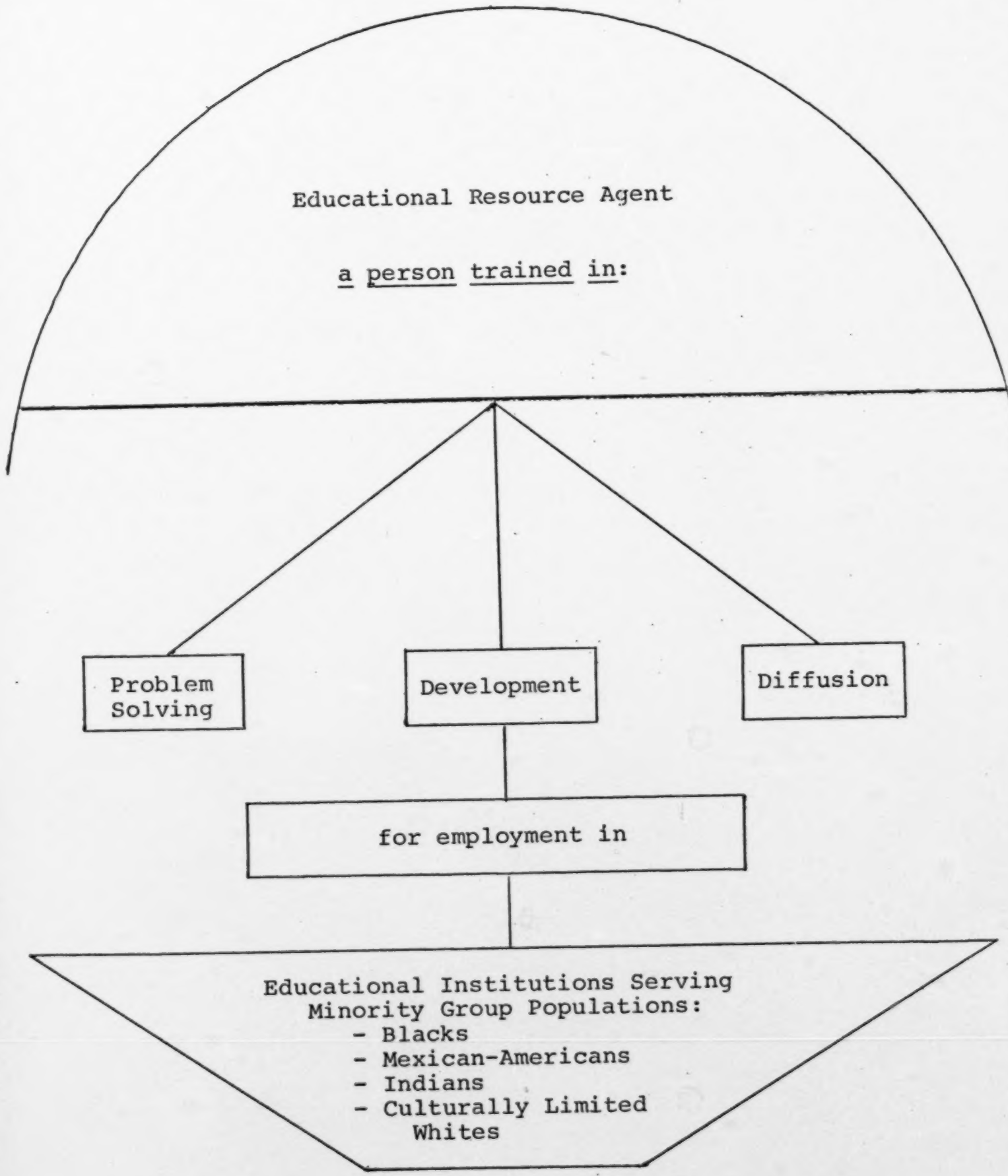
This term is used for the selected subpopulations included as targets for this training design (blacks, Indians, Mexican-Americans, and culturally limited whites). The culturally limited whites are recognized as a minority since they manifest many of the same characteristics as the other groups identified as rural minority.

Sub-Contractor:

Institution, organization, or agency with special programmed roles in the training consortium - Tuskegee Institute; New Mexico State University; University of North Dakota; National Federation for the Improvement of Rural Education (NFIRE).

Figure A-I

EDUCATIONAL RESOURCE AGENT UMBRELLA



B. OVERARCHING RATIONALE UNDER WHICH THE NEWLY DESIGNED TRAINING PROGRAMS ARE TO BE INTEGRATED

The project rationale will be introduced by providing (1) a brief treatment of the anatomy of the change climate, particularly as change is related to this project, and (2) a summary of the training design for which the rationale is presented.

1. Anatomy of the Change Climate

Public schools have been described as monopolistic and bureaucratic, culminating in a "closed" organization. Innovations and innovative personnel are often received as threats to a steady organizational equilibrium. A school system's most commonly employed behavior in coping with change is cooptation. School system cooptation includes both formal and informal orientations wherein the desired conformity models are stressed. Educational resource agents trained in this project will receive exposure to school cooptation mechanisms. Training component personnel will make periodic on-site supportative visits to reinforce change-process and to minimize cooptation influences. Additionally, trainee group esprit de corps will be employed as positive reinforcement for change.

2. Summary of the Training Design

This training design is directed specifically toward the personnel preparation focus entitled demonstration/dissemination in RFP70-12.

What is educational demonstration/dissemination? Without the antecedent, educational, many readers, even in education, assume that diffusion refers to a scientific concept. Of the four focuses for training specified in RFP 70-12, i.e., research, development, evaluation, and demonstration/dissemination, the latter not only is the least understood, but has had the least attention given to the development of conceptual models.

After reading this RFP and reviewing a vast body of literature focusing on demonstration/dissemination, it is an obvious conclusion that this focus has a distance to go before it can meet the conceptual challenge of the other three focuses. But, as will be fully developed in this rationale, manpower needs wait for no man including the conceptualizers of demonstration/dissemination. While the reader might consider neither the basis for a fully developed conceptual model to exist nor the rationale for training these personnel, he will have to agree that employment opportunities and work potential do exist.

This training design proposes to demonstrate the effectiveness of a team approach to the improvement of education through demonstration/dissemination. Specifically, a team of sixteen members, titled throughout this proposal as educational resource agents, will be established within a single state. Two members of the team will serve as state coordinators of educational demonstration/dissemination activities. Four intermediate level personnel, representing regional service units or state college extension programs, will serve at the middle level. At the third level, closest to the educational practitioner, will be ten persons working with at least as many school districts.

Educational resource agent members will receive common training in three processes: problem solving, diffusion, and development. Local level personnel will further specialize in problem solving, intermediate in diffusion, and state in development. An internship experience will be provided which will have as its major emphasis the sensitization of the trainees to the problems of effecting change within cultures different than their own.

The training structure as treated in this document will be a three summer experience. A two week short term course, four week internship, and one week follow-up session comprise the program each summer. Short campus sessions during the academic year are also a feature of the program.

Trainees will enroll the first summer at one of three institutions: Tuskegee Institute where problem solving will be offered; University of North Dakota, diffusion; and New Mexico State University, development. The trainees will participate in an internship experience which focuses on cultural awareness in conjunction with the appropriate rural/culturally limited/minority population in the vicinity of the academic training sites.

During the academic years between the three summers the trainees will be employed at the organizational levels for which they are being prepared to work. Their employers will have signed an agreement to provide them time and resources to secure their new roles. Such roles require the trainees to serve as knowledge linkers between the research and development specialists on the one hand the the educational practitioners on the other.

3. The Rationale

The remainder of this section will build a comprehensive rationale for the training of these personnel under the following headings:

a. What does the literature suggest concerning types of knowledge linking personnel?

b. What are the pivotal manpower needs for these knowledge linking personnel?

c. What are the manpower needs for knowledge linking personnel service rural/culturally limited/minority regions?

d. Knowledge linking within the concept of dissemination and utilization.

e. Knowledge linking within the concept of research, development, and dissemination.

Application of this rationale to the structure and content of the training design will be left until Part III of this proposal.

a. What Does the Literature Suggest Concerning Types of Knowledge Linking Personnel? Content of educational literature increasingly reflects consideration being given to emerging new roles for educators. Development and diffusion are but two of many dimensions of education for which new roles are being invented. Two major literature reviews will be cited to present a picture of the emerging roles in knowledge linking; Ronald Havelock, Planning for Innovation through Dissemination and Utilization of Knowledge (1969),[1] and David Clark and John Hopkins, A Report on Educational Research, Development, and Diffusion Manpower, 1964-1974 (1969).[2]

Selected documentation reported by Clark and Hopkins will be first presented to support their conclusions relative to emerging new educational roles. Throughout their presentation, Clark and Hopkins used the term diffusion to refer to the various related educational roles; roles similar to the educational resource agent of this design. In this document diffusion is more generally applied to one of the three processes forming the basic content of the training program. The reader should keep in mind this distinction when reading references to Clark and Hopkins' study.

Under emerging new roles for knowledge linking (diffusion), three general areas were noted: specialists in information storage and retrieval, middle men or linkers who move research into practice, and general managers of the diffusion process. Numerous role names have been suggested in the educational literature for personnel to work in the above three areas.

Clark and Hopkins attempted to make some logical sense out of the variety of job titles. Their approach was to study the institutional settings for apparent adoption of these new roles since, "Until an institution adopts new or modified R, D, and D (Research, Development, and Dissemination) program objectives, the R, D, and D roles in the institution are likely to remain static."

At the state education department level, because of Title III and V, ESEA, the following emerging roles were noted:

- Directors of development and diffusion planning programs.
- Development and diffusion planning staff, including planners, evaluators, disseminators and (perhaps) demonstrators.

- Development and diffusion technical personnel, to provide consultative service to local school districts.

- Stimulators and coordinators of development and diffusion projects.(2)

At the school and district level, the authors listed seven development and diffusion activities stimulated by ESEA Title III. As a result, the following emerging roles were noted:

- Directors of D and D project centers.

- Staff of D and D centers, including ... technical support personnel, disseminators, demonstrators, target system trainers, installers and servicers, and development and diffusion personnel trainers.(2)

Concluding their review of emerging new roles, Clark and Hopkins stated:

> Emergence of diffusion roles will be delayed because responsibility for (a) training target systems in the use of solutions and programs and (b) the servicing and nurturing of installed solutions and programs has not been clearly accepted by an institution at this time. This may require the creation of a new R, D, and D institution or (more likely) the addition of a major new segment to the R, D, and D mechanisms now available to school systems and to college and universities.(2)

Havelock,(1) in a review, dealt extensively with the theoretical aspects of the knowledge linking roles. However, he also reviewed the various types of knowledge linkers under a nine-part topology of linking roles. This topology, including the examples which apply to education, will be found in Figure B.1, Page 21. This topology has considerable application to the diffusion teams proposed under this design.

Havelock in the narrative describes in greater detail these linking roles including specifying additional examples of each. Since his review was undertaken at nearly the same time as Clark

F. Defender	To sensitize the user to the pitfalls of innovations, to mobilize public opinion, public selectivity, and public demand for adequate applications of scientific knowledge.	Agriculture
		Education
G. Knowledge-builders as linkers	To transfer through gatekeeping for the knowledge storehouse and through defining the goal of knowledge utilization.	Various
		Various
	To transfer through maintenance of a dual orientation: scientific soundness and usefulness.	Education
		Education
		Education
		Education
		Education
H. Practitioner as linker	To transfer to clients and consumers through practices and services which incorporate the latest scientific knowledge	All
I. The User as linker	To link by taking initiative on one's own behalf to seek out scientific knowledge and derive useful learnings there from.	Agriculture
		None in Education

ne pit- obilize ectivity, uate appli- ledge.	Agriculture	County Agent	Francis and Rogers
	Education	"Quality Controller"	Hencley
eping for nd through edge	Various	Scholar:	Znaniecki
		scientific leader	
		General educator	
		Definers of human values	
	Various	Futurists and future planners	Wright
nance of tific	Education	Applied researcher-developer	Clark & Hopkins
	Education	Res. coordinator	Sieber
	Education	Res. director	Sieber
	Education	Engineer	Anderson
	Education	Curriculum developer	Clark
con- nd the e	All		
ve on ut erive n.	Agriculture	Most Advanced farmers	Havelock & Benne Rogers
	None in Education		

Figure B.1

Knowledge Linking Roles

Role Type	Function	Field
A. Conveyor	To transfer knowledge from producers	Education
		Education
B. Consultant	To assist users in identification of problems and resources, to assist in linkage to appropriate resources; to assist in adaptation to use: facilitator, objective observer, process analyst.	Various
		Education
		Agriculture
C. Trainer	To transfer by instilling in the user an understanding of an entire area of knowledge or practice.	All Fields
		Education
D. Linker	To effect linkage through power of influence in one's own group, to transfer by example or direction.	Education
		Various
E. Innovator	To transfer by initiating diffusion in the user system.	Agriculture
		None in Education

Figure B.1

owledge Linking Roles

	Field	Examples	Sample Advocates
ucers	Education	Trainers Informers Demonstrators Disseminators	Clark & Hopkins
	Education	Teacher	
on of st in s; to facili- cess	Various	Change agent	Lippitt, et al.
	Education	Change agent	Watson, #6194 & #6195
	Agriculture	County agent (as he actually operates much of the time)	Penders Stone
ne user area of	All Fields	Teacher	
		Professor of Practice	
	Education	Trainer	Clark & Hopkins
r of to on.	Education	Administrator: superintendent, principal	Carlson Richland Chesler
	Various	Gatekeeper	Lewin
usion	Agriculture	Innovator	Rogers
	None in Education		

and Hopkins' review it is no surprise to find considerable overlap between the two. Further consideration of Havelock's theoretical model of the linkage process and the resultant emerging roles will be left for the design content rationale.

Havelock in his report on Planning for Innovation[1] also indicates the necessity for new linkage roles. This theme was further developed in an address on March 31, 1970 delivered to the President's National Advisory Council Conference on Innovation and directly relates to training design content. He, paralleling Clark and Hopkins, noted the outstanding potential of Title III, ESEA to affect changes in traditional, but ineffective, educational practices.

Havelock's approach to knowledge linking treats problem solving process as the necessary growth media. As the practitioner encounters a problem, he enters formally or informally upon the process of problem solving. At some point in this process the practitioner, in a search for solutions to his problem, encounters one or more resource persons who might be able to help him. Figure B.2, Page 24 shows this encounter.

Each resource person should in time be linked to other resource persons and agencies. Havelock goes so far as to recommend that resource persons be formally employed within established linkage agencies (See Figures B.3, Page 25.

"We need to build a national system which allows any school district to plug into the most sophisticated sources of information in such a way that they get knowledge and materials which

Figure B.2

The Linkage Process (3)

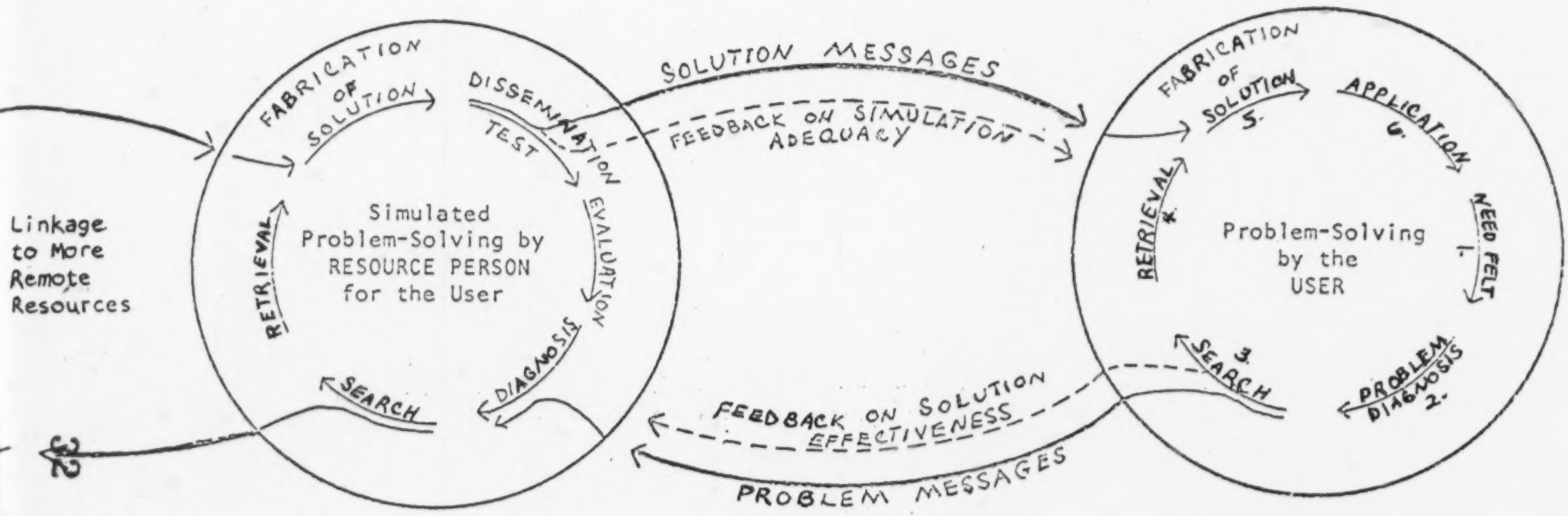
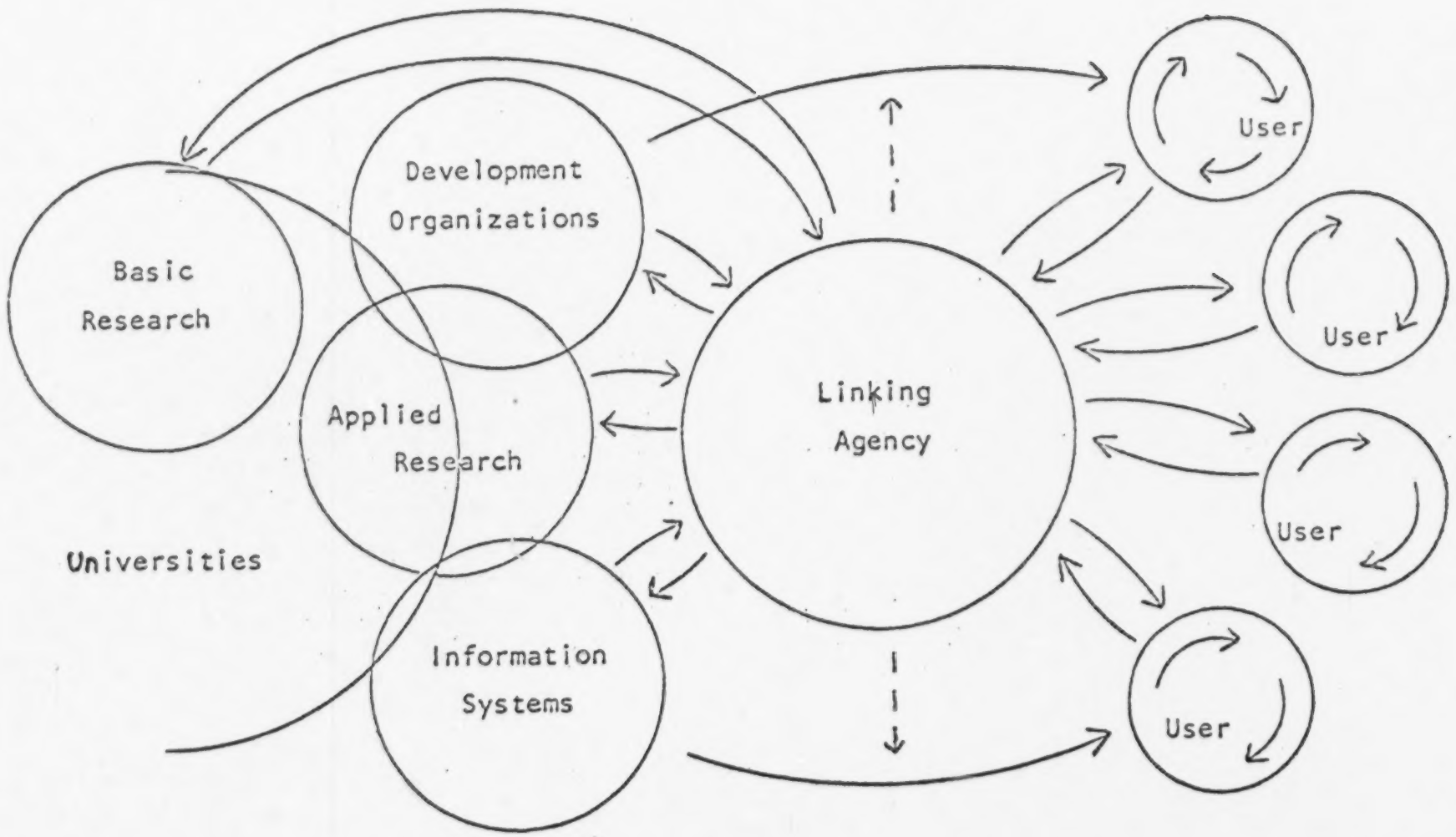


Figure B.3

The Central Linking Agency in the Macrosystem(3)



are relevant and timely and truly cost/beneficial."(3) Research organizations such as the R & D centers and some development centers such as the regional laboratories exist, but "we do not have ... a network of regional centers which can serve as truly comprehensive resource centers and resource linking centers with the skills and the staffs to be an effective mediating mechanism between R & D on the one hand and operating school districts on the other."(3)

Havelock further suggested a number of practical guidelines for such resource linkage centers. In conclusion, he first specified the "need to train and recruit a core staff of people." He also recommended "a national system for coordinating research, development, dissemination and utilization, a system which is simultaneously federal, state, and local, in which there is a continuous chain of interdependence and two-way linkage from researchers to developer to practitioner to consumer." Finally,

> "From my work, I have come to believe that there is a need for a new type of agency right in the heart of this system, an agency manned by people who can work in the middle between research and practice, knowledge brokers, linkers, change agents, call them what you may. There is a set of skills in this area which can be taught and learned, but very, very few people have them today."(3)

Rogers with Shoemaker,(4) in their new book, Communication of Innovations: A Cross-Cultural Approach, reached a similar conclusion in the following words:

> But the social structure of a formal organization can be made to work for effective communication, rather than to impede it. One method is to create an adaptive unit as part of the organization's structure. It may

> be called a research and development unit, or some other such euphemistic title. The purpose of the adaptive unit is to sense the changes in the environment, to determine the need for changes in the organization, to identify suitable innovations, and to evaluate innovations.
>
> In a sense, adaptive units perform like change agents.... If it (adaptive unit) is to operate as an effective change agent, it must have skilled personnel and adequate funds to influence potential adopters, wherever they may be in the organization.

b. What are the Manpower Needs for These Knowledge Linking Personnel? The manpower training requirements for knowledge linking personnel is a critical contemporary problem. At one extreme will be found recommendations such as the following by Ronald Havelock as it appeared in his June 30, 1970 interim Report to the U. S. Office of Education concerning A Training Model for Change Agents in State Education Agencies.(5) "Every educator can and should eventually possess the skills described herein." (Emphasis that of Havelock). If one were to implement this recommendation, the extent of the task would be overwhelming. Havelock himself continues with the suggestion to immediately "single out" particular individuals in a strategic location, the state education agency, as the 'change agents'".(5)

Everett Rogers and Lynne Soenning,(6) in the monograph, Managing Change, written for a State-wide Project to Prepare Educational Planners for California, considered this seriousness of the manpower needs in these words:

> Change is with us. We need to develop social systems capable of assimilating innovation and change at an increasing rate....

Since change and innovation can be negative as well as postive forces, it is necessary in a rapidly developing and complex society like ours to ensure that change works for us and not against us. To permit change to take place as a spontaneous process is no longer practical, as is well evidenced in the field of education....

Since the invention process often takes place apart from the units in the system that will eventually adopt the innovation, communication between the inventor and the potential adopter is vital. New ideas can have no effect if they are not made known to potential users. This vital link between innovator and potential adopter is probably one of the weakest interfaces in our contemporary educational systems....

...this results, in part, from the lack of educa tional change agents. Very few individuals have undertaken the task of making school systems and school teachers aware of known and available innovations or potential opportunities to innovate.(6)

Turning now to a more documented and detailed account of the knowledge linking manpower needs, Clark and Hopkins' A Report on Educational Research, Development, and Diffusion Manpower, 1964-1974, completed in 1969,(2) will serve as the major reference for this theme. Clark and Hopkins defined "diffusion" (knowledge linking in this document to distinguish from the process of diffusion) to include the following four activities:

(1) "Informing target systems about solutions and programs." This activity, also entitled dissemination, is accomplished through journal writing, conventions, courses, workshops, and most recently, ERIC.

(2) "Demonstrating the effectiveness of solutions and programs." Demonstration has frequently been confused, according to the authors, with dissemination. They are conducted "to convince,"

"in its fullest sense, a demonstration for interaction between the demonstration and the professional person." This ideally provides for two-way linkage, whereas dissemination is only one-way linkage.

(3) "Training target systems in the use of solutions and programs." While this activity might appear to be simply inservice education, in reality it is inservice education in support of a particular educational change or innovation.

(4) "Servicing and nurturing installed solutions and programs." The purpose of the activity is to provide the support needed to sustain the innovation in the system after it has been adopted." Experience has shown that educational practitioners could use assistance and support even after they have "adopted" an innovation."(1)

Clark and Hopkins' first approach to determning manpower needs was a historical review. Particular attention was given to a 1964 survey of research manpower. It was apparent throughout Clark and Hopkins' study that the actual research manpower needs by 1968 and the projected needs for 1974 were on the order of twice the actual number of research personnel in 1964. However, similar conclusions could not be provided for "development" (Note that this usage of the term also differs from that in this document) and "diffusion" personnel needs for the following three reasons:

(1) "First and foremost, there were simply few individuals involved in activities which could be labeled 'Development' or 'Diffusion'".

(2) Secondly, the questionnaire "was directed primarily toward more conventional research activity."

(3) Third, "many developers and diffusers were probably unwilling to respond to the questionnaire, feeling they were not the population sought."(1)

Only 3.2% of those responding to the 1964 study could be classified as "developers" and 1.2% as "diffusers". An attempt in 1967 to verify these findings still found only 25% in "development" and 10% in "diffusion" of all R, D, and D personnel.(1)

Some of the 1964 employers of these few "developers and diffusers" included business and industry where engineers, packagers, and diffusers were found, universities in research and field service bureaus, and a few individuals working with information storage and retrieval. "No development or diffusion units were discovered at the local school level."(2)

The conclusion reached by Clark and Hopkins from reviewing the 1964 survey is pertinent.

> "However many more ("development and diffusion" personnel) might have been located by different techniques, it does seem clear that development and diffusion activity was as much peripheral to the educational research community in 1964 as the community itself was peripheral to the field of education."(2)

Clark and Hopkins' projections of R, D, and D program funding levels through 1974 and resulting manpower needs by 1974 paint a rather dismal picture. Unless something is done to remedy the situation, the nation's schools will be faced with personnel trained in traditional educational specialities attempting to fill the emerging new roles in "development and diffusion." Past experience indicates that this may create an unastisfactory situation.

The authors reached the following three conclusions concerning the consequences of this situation for education:

(1) The vacuum created by demand far exceeding available supply will be filled with whatever leadership and staff talent is available, whether or not that talent has any special qualifications for the new responsibilities.

(2) The projects and programs supported by new funding programs will take on the characteristics of the personnel available to act as staff. Consequently, neither the agencies which provide the funds nor the institutions which adopt the new objectives of the funding agencies will, in fact, be able to secure the objectives established.

(3) Serious slippage will occur in the measurable progress of R, D, and D organizations because of the time devoted to finding virtually non-existent personnel.(1)

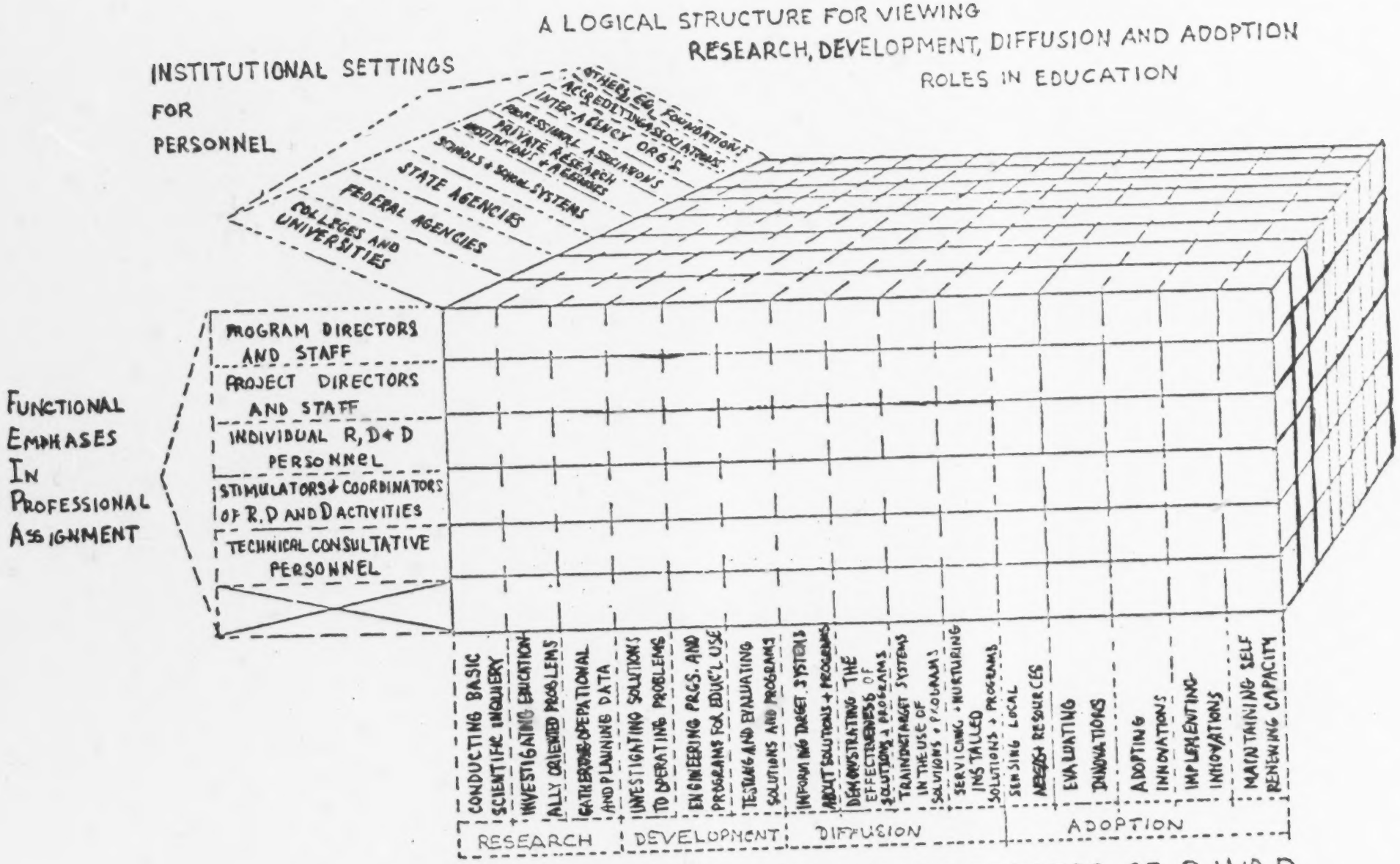
What are the funding and resultant manpower needs specifically in the area of "diffusion" or knowledge linking? The model or logical structure used by Clark and Hopkins to define the institutional settings, professional assignments, and process for all possible types of R, D, and D personnel is reproduced as Figure B.4, Page 32. For both funding levels and manpower needs the least and most optimistic and most likely figures were developed and presented.

Some of the pertinent findings relative to funding for development and diffusion activities were:

(1) Assuming schools of education enter this field the funding level for "small development and diffussion projects" will increase rapidly.

(2) Large scale development and diffusion projects will also be substantially increased and the emphasis will change from simply materials development to include "the invention of solutions to operating problems and the packaging of these solutions in preparation for wide dissemination."

Figure B.4



FUNCTIONAL EMPHASES IN THE PROCESS OF R AND D

(3) Special development and diffusion projects will show dramatic growth if the conclusion of a USOE task force, that "the smallest aggregate of instructional variables that seemed to make sense in terms of attempting significant departures in educational innovation might will be an entire school," is followed.

(4) Only a very limited percentage of the ESEA Title III funds are used for development and diffusion, despite the program administrators estimate that 60% is so used. The shift to state administration of Title III is seen as likely to result in a still lower percentage of funds used for these purposes.(1)

Figure B.5, Page 34 reproduces the summary table showing funding for the various programs and projects supporting educational R, D, and D activities. The growth ratios for the development and diffusion funds lead the authors to conclude that:

> "Development and diffusion programs and projects are to be given greatest support. If funds remain tight, the support given development and diffusion will be at the expense of research project."(2)

Clark and Hopkins determined as of 1966 the numbers of R, D, and D personnel employed under each category of funding. This table is reproduced as Figure B.6. Over one-half of the 4,000 plus R, D, and D personnel were engaged in activities categorized under the headings development and diffusion. Thus, the impact of the regional laboratories and Title III centers have been felt according to the authors.(2)

These baseline figures, along with the funding levels in 1966 and funding potential for 1974, were used to project personnel needs through 1974. Projections included the least and most optimistic and most likely estimates. These three

Figure B.5

FUNDING BASE, EQUIVALENT FUNDING BASE, PROJECTED FUNDING ENDPOINTS, AND GROWTH RATIOS, BY SUB-UNITS ($ IN THOUSANDS)

Sub-Units	(1) Funding base	(2) Equivalent funding base	(3) Funding projection endpoints: Least Optimistic	(4) Funding projection endpoints: Most Likely	(5) Funding projection endpoints: Most Optimistic	(6) Growth ratios: Least Optim.	(7) Growth ratios: Most Likely	(8) Growth ratios: Most Optim.
Programs								
Centers	$ 6,791	$ 10,033	$ 10,853	$ 26,000	$ 40,000	1.08	2.59	3.99
Div. Ed. Labs.	1,000	1,477	2,980	3,350	3,350	2.02	2.27	2.27
Voc. Ed.	1,700	2,277	2,277	8,472	3,472	1.00	3.72	1.52
National	470	631	631	3,950	5,000	1.00	6.26	7.92
Handicapped Ch.	1,000	1,339	1,339	2,500	2,500	1.00	1.87	1.87
Policy Study	1,000	1,477	1,876	1,876	1,876	1.27	1.27	1.27
Instruc. Mats.	8,025	11,856	31,895	56,000	90,000	2.69	4.72	7.59
Laboratories	1,541	2,277	3,819	7,247	7,500	1.67	3.18	3.29
Clearing Hses.	2,152	3,179	2,450	2,450	2,450	.77	.77	.77
Res. Coord. U.	1,125	1,508	3,389	3,437	5,000	2.25	2.28	3,32
State Depts.								
Projects								
Research	1,671	2,469	2,035	2,689	7,500	.82	1.09	3.04
Small	22,810	33,686	29,936	35,975	40,000	.89	1.07	1.19
Regular	1,000	1,277	1,277	2,644	10,000	1.00	2.07	7.83
Special								
D and D	651	962	792	1,044	2,500	.82	1.09	2.60
Small	13,397	19,793	10,210	17,625	20,000	.52	.89	1.01
Regular	5,500	7,370	7,370	25,118	38,618	1.00	3.41	5.24
Special	6,000	8,865	16,800	34,600	60,000	1.90	3.90	6.77
Title III								

Figure B.5 (Continued)

Sub-Units	(1) Funding base	(2) Equivalent funding base	(3) Funding projection endpoints: Least Optimistic	(4) Most Likely	(5) Most Optimistic	(6) Growth ratios: Least Optim.	(7) Most Likely	(8) Most Optim.
NSF-CCI	$ 10,390	$ 15,350	$ 18,090	$ 21,743	$ 23,500	1.18	1.42	.53
TOTALS	$ 86,223	$125,826	$148,019	$256,720	$363,266	----	----	----

[a]FY '68 base used because sub-unit did not exist in FY '66.

[b]Ten percent of section 503 funds, the proportion that the project staff estimated was devoted to R, D, and D.

[c]The minimum funding for the sub-unit, beginning in FY '69.

[d]Eight percent of Title III funds, the proportion that the project staff estimated was devoted to R, D, and D after surveying a group of Title III centers, as reported in Chapter IV.

Figure B.6

BASE NUMBER AND PERCENT OF PERSONS ENGAGED IN RESEARCH, DEVELOPMENT AND DIFFUSION ACTIVITIES, BY SUB-UNITS (1)

Sub-Units	Research	Development	Diffusion	Total
PROGRAMS				
Centers				
DEL	178	107	49	334
DCVR	13	7	19	39
DESR	28[a]	19[a]	9[a]	56[a]
HCY	10[a]	6[a]	4[a]	20[a]
Policy Study	19[b]	--	--	19[b]
Instructional materials	5	15	48	68
Laboratories	20[c]	237[c]	28[c]	285[c]
Clearing Houses	--	5	93	98
Research Coord. Units	227	--	--	227
State Dept. Res. Divs.	68	31	45	144
PROJECTS				
Research				
Small	307	5	5	317
Regular	695	94	27	816
Special	36	--	--	36
D and D				
Small	18	62	10	90
Regular	141	277	105	523
Special	27	134	37	198
Title III	132[d]	270	77	479
NSF-CCI	--	427	87	514
TOTAL	1,924	1,696	643	4,263
PERCENT	45	40	15	100

[a]Number based on FY '68 funding. Distribution arbitrarily as approximately that of DEL R and D centers.

[b]Number as of 9/68 according to personnel in both centers.

[c]Based on project analysis of lab. budgets, 6/67.

[d]In analyzing the proposals submitted for Title III funds the project staff found there was this proportion of such persons among the personnel listed as being needed.

projections are presented as Figures B.7, Page 38; B.8, Page 39; and B.9, Page 40. The percentage of "development and diffusion" personnel is estimated to be increasing until it will represent nearly two-thirds of the total number of R, D, and D personnel required in education. Depending upon which projection one accepts, the number of R, D, and D Personnel will increase to from 5,100 to 12,400. Considering further the most likely estimate, the number of "diffusion" personnel will increase from 643 in 1966 to 1,493 in 1974, an increase of 230 percent.(1)

The authors concluded from these data that,

> "Even if the base proportion of diffusion personnel were maintained, which will not actually be the case, the number of positions projected would be greater than the entire R, D, and D population in schools and colleges of education in 1964."(2)

Clark and Hopkins carried their projections one step further. Recognizing that "Entire populations of educational R, D, and D persons had not been considered in the projections to this point," they developed an additional set of projections by employing institution. Figures B.10, B.11 and B.12 provide the data for the least and most optimistic and most likely projections. In these tables it is noteworthy that the total number of R, D, and D positions required by 1974 is estimated to range from 12,800 to 27,000.(2)

Special note should be given to the number of personnel required by state departments of education (range from 945 to 1,107) and schools and school systems (range from 1,207 to 3,588).(2) If the research and development activities undertaken

Figure B.7

NUMBER AND PERCENT OF R, D AND D POSITIONS UNDER LEAST OPTIMISTIC PROJECTION OF FUNDING IN FY '74, BY SUB-UNITS (1)

Sub-Units	Research	Development	Diffusion	Total
PROGRAMS				
Centers				
DEL	192	116	52	360
DCVR	26	14	38	78
DESR	28	19	9	56
HCY	10	6	4	20
Policy Study	19	--	--	19
Instructional materials	6	19	61	86
Laboratories	54	638	75	767
Clearing Houses	--	8	155	163
Research Coord. Units	175	--	--	175
State Dept. Res. Divs.	153	70	101	324
PROJECTS				
Research				
Small	252	4	4	260
Regular	619	84	24	727
Special	36	--	--	36
D and D				
Small	14	51	8	73
Regular	73	144	55	272
Special	27	134	37	198
Title III	251	513	146	910
NSF-CCI	--	504	103	607
TOTAL	1,935	2,324	872	5,131
PERCENT	38	45	17	100

Figure B.8

NUMBER AND PERCENT OF R, D AND D POSITIONS UNDER MOST LIKELY PROJECTION OF FUNDING IN FY '74, BY SUB-UNITS (1)

Sub-Units	Research	Development	Diffusion	Total
PROGRAMS				
Centers				
DEL	436[a]	263	123	822[a]
DCVR	30	16	43	89
DESR	104	71	33	208
HCY	63	37	25	125
Policy Study	36	--	--	36
Instructional materials	6	19	61	86
Laboratories	85[b]	1,004	121	1,210[b]
Clearing Houses	--	16	296	312
Research Coord. Units	175	--	--	175
State Dept. Res. Divs.	154	71	103	328
PROJECTS				
Research				
Small	335	5	5	345
Regular	744	101	29	874
Special	75	--	--	75
D and D				
Small	20	68	11	99
Regular	125	247	93	465
Special	92	457	126	675
Title III	515	1,053	300	1,868
NSF-CCI	--	606	124	730
TOTAL	2,995	4,034	1,493	8,522
PERCENT	35	47	18	100

[a]Reduced 5 percent to compensate for smaller proportion of operating unit budgets being devoted to personnel support.

[b]Reduced 10 percent for same reason given in preceding footnote.

Figure B.9

NUMBER AND PERCENT OF R, D AND D POSITIONS UNDER MOST OPTIMISTIC PROJECTION OF FUNDING IN FY '74, BY SUB-UNITS

Sub-Units	Research	Development	Diffusion	Total
PROGRAMS				
Centers				
DEL	633[a]	383[a]	184[a]	1,200[a]
DCVR	30	16	43	89
DESR	43	29	13	85
HCY	79	48	32	159
Policy Study	36	--	--	36
Instructional materials	6	19	61	86
Laboratories	119[b]	1,413[b]	167[b]	1,699[b]
Clearing Houses	--	16	306	322
Research Coord. Units	175	--	--	175
State Dept. Res. Divs.	226	103	149	478
PROJECTS				
Research				
Small	933	15	15	963
Regular	827	112	32	971
Special	282	--	--	282
D and D				
Small	47	161	26	234
Regular	142	280	106	528
Special	141	702	194	1,037
Title III	894	1,828	521	3,243
HSF-CCI	--	653	133	786
TOTAL	4,613	5,778	1,982	12,373
PERCENT	37	47	16	100

[a]Reduced 10 percent to compensate for smaller proportion of operating unit budget funds being devoted to personnel.

[b]Reduced 15 percent for reason given in preceding footnote.

Figure B.10

LEAST OPTIMISTIC PROJECTION OF R, D AND D POSITIONS BY AGENCY SETTING AND FUNCTIONAL JOB EMPHASIS--1974

Setting	R, D and D Program Directors and Staff	R, D and D Project Directors and Staff	Individual R, D and D personnel			Stimulators and Coordinators	Total
			Hard-core Producers	Regular Producers	Occasional Producers		
Schools and Colleges of Education	905		260	599	1,402	107	3,273
Schools and Depts. of Psychology	85		46	141	234		516
Other Behavioral and Social Science Departments	73		91	161	211	1	537
Other Discipline and Academic Departments	26		175	326	539	14	1,080
College and University Administration Units	150			10	69		229
U. S. Office of Education	136					20	156
Other Departments of Education	820		25	25	65	10	945
Schools and School Systems	265	937				5	1,207
Private Research Institutes and Agencies	2,400						2,400
Professional and Lay Associations	121	259					380
Inter-Agency Organizations	904						940
Business and Industrial Organizations	1,200						1,200
TOTAL	7,085	1,196	597	1,272	2,520	157	12,827

Figure B.11

MOST LIKELY PROJECTION OF R, D AND D POSITIONS BY AGENCY SETTING FUNCTIONAL JOB EMPHASIS--1974

Setting	R, D and D Program Directors and Staff	R, D and D Project Directors and Staff	Individual R, D and D personnel			Stimulators and Coordinators	Total
			Hard-core Producers	Regular Producers	Occasional Producers		
Schools and Colleges of Education	1,715		402	925	2,165	107	5,314
Schools and Depts. of Psychology	111		67	216	336		730
Other Behavioral and Social Science Depts.	99		126	223	376	1	825
Other Discipline and Academic Departments	27		265	493	815	14	1,624
College and University Administration Units	150			13	89		252
U. S. Office of Education	136					20	156
State Departments of Education	832		25	25	65	10	957
Schools and School Systems	265	1,917				5	2,187
Private Research Institutes and Agencies	3,600						3,600
Professional and Lay Associations	150	399					549
Inter-Agency Organizations	1,442						1,442
Business and Industrial Organizations	1,800						1,800
TOTAL	10,337	2,316	885	1,895	3,846	157	19,436

Figure B.12

MOST OPTIMISTIC PROJECTION OF R, D AND D POSITIONS
AGENCY SETTINGS AND FUNCTIONAL JOB EMPHASIS--1974

Settings	R, D and D Program Directors and Staff	R, D and D Project Directors and Staff	Individual R, D and D Personnel			Stimulators and Coordinators	Total
			Hard-core Producers	Regular Producers	Occasional Producers		
Schools and Colleges of Education	1,978		623	1,437	3,361	107	7,506
Schools and Depts. of Psychology	117		107	348	543		1,115
Other Behavioral and Social Science Depts.	105		192	339	445	1	1,082
Other Discipline and Academic Departments	38		373	693	1,146	14	2,264
College and University Administration Units	150			24	165		339
U. S. Office of Education	136					20	156
State Departments of Education	982		25	25	65	10	1,107
Schools and School Systems	265	3,318				5	3,588
Institutes and Agencies	4,800						4,800
Professional and Lay Associations	152	494					646
Inter-Agency Organizations	2,012						2,012
Business and Industrial Organizations	2,400						2,400
TOTAL	13,135	3,812	1,320	2,866	5,725	157	27,015

by the majority of the personnel considered in these tables is to be implemented, there must be someone at the school level close to the practitioner who will be supportive of the new developments.

Clark and Hopkins appeared to be supportive of this position in these two conclusions relative to state department and local district personnel needs:

- An approximate tripling of demand for R, D, and D program personnel in state departments of education would increase the possibility, at least, of state departments' having sufficient personnel to prepare state plans, stimulate innovation, evaluate major programs, and conduct research on the effectiveness of educational programs in their state.

- Growth in demand for development and diffusion personnel (primarily) on the order of four times the 1964 population would occur in schools and school systems, but a continuation of current staffing patterns would result in much of the activity being either (1) inner-directed demonstration of quality facets of the regular school program, or (2) provision of additional "special services" normally provided by many school systems.

c. What are the Manpower Needs for Knowledging Linking Personnel Serving Rural/Culturally Limited/Minority Regions?

The preceeding description of diffusion manpower needs indicates that major training action is required if sufficient equipped personnel are to be available. But, what about the manpower needs of the focal populations in this proposal? Does the need exist for diffusion personnel to serve the rural/culturally limited/minorities?

One answer to this question is to look at the availability of educational specialists such as counselors, speech therapists, school psychologists, and etc. Without documenting this conclusion,

it is conceded that there are proportionally fewer specialists in rural regions as compared to suburban and urban regions. When considering a new or emerging role, it is even less likely that rural/culturally limited/minority regions have a proportionate share of the few such personnel now available.

Another answer to this question is to review the extensiveness of the rural/culturally limited/minority problem. Rural America represents about a quarter of the American population and a considerably greater share of the land area. As reported in Appendix A of the planning grant proposal, Dr. Edward O. Moe, Professor of Sociology, University of Utah, at the NFIRE co-sponsored conference on Solving Educational Problems in Sparsely Populated Areas, indicated that "it is surprising also that proportionally there are more poor people in the rural population than in the urban."(7) Approximately forty percent of all the poor live in rural regions; the following list indicates in rank order the percent of the population in selected settings which, by definition, must be classified as poor.(7)

Location	Percent of Poor
Farm	29.3
Rural Total	25.0
Non-Farm	23.6
Small Cities	23.6
U. S. Total	17.7
Central Cities	17.4
Urban Total	14.8
Metropolitan Areas	12.6
Suburbs	6.7

It was noted in the description of manpower needs preceeding this consideration of rural/culturally limited/minority needs that, depending upon whether one agrees with the least or most optimistic manpower projections of Clark and Hopkins, 945 to 1107 state level personnel and 1207 to 3588 intermediate and local level personnel will be required by 1974. Translating the data on the extent of the rural/culturally limited/minority population, one-fourth of the total population of the United States lives in rural America, the result is 236 to 277 state level personnel and 302 to 897 intermediate and local level personnel required by 1974 to meet the needs of the rural/culturally limited/minority people of America.

The question immediately raised, must personnel to serve rural/culturally limited/minorities receive different training than personnel to serve other segments of the population, will now be considered. Everett Rogers and Floyd Shoemaker, in their recent book, Communication of Innovations: A Cross-Cultural Approach, have devoted extensive attention to this problem. Their approach has been via the disciplines of rural sociology and agriculture. The key concept to be understood is entitled heterophily, "the degree to which pairs of individuals who interact are different in certain attributes, like beliefs, values, education, social status, etc."(6) Rogers defines this concept in these words:

> Perhaps one of the most distinctive problems that characterizes the communication of innovations is that the source is usually quite heterophilous to the receiver. ...when source and receiver are identical regarding their technical grasp of the innovation, no diffusion can occur. So the very nature of diffusion demands that at least some degree of heterophilly is present between source and receiver.

> This heterophilly gap in diffusion is much wider when source and receiver do not share a common culture, as when we focus upon the transfer of technological innovations from more to less developed countries.(6)

What are some of the consequences of utilizing personnel unconcerned with or unaware of the "heterophily gap" when attempting to assist rural/culturally limited/minorities? Rogers suggests the following problems as examples:

(1) Change agents frequently do not perceive or understand the social meaning of the innovations they introduce, especially the negative consequences that accrue when an apparently functional innovation is used under different conditions. Change agents are especially likely to make this mistake when they do not emphasize fully with the members of the recipient culture, as in cross-cultural contacts or in other heterophilous situations.

(2) Thus, choosing an innovation for diffusion, introducing it into a selected social system, and promoting its rapid adoption by various techniques without producing manifest or latent negative consequences, either in the short-range or in the long-range, is not an easy task to accomplish. Since cultures differ so widely in various nations, the diffusion strategist must recognize the unique characteristics of each social system, and make appropriate adpatations and modifications in his planned rate of change.

(3) The concept of cultural relativism has obvious implications for change agents. The welfare of the receivers of innovations must be kept uppermost in mind. Decisions to introduce an innovation into a given system must therefore be based on a genuine concern for the needs of the members of that system, and not to impose the change agent's way of life, value system, and normative judgments on his clients.(6)

Rogers and Shoemaker better summarized this data than the designers of this training design in these words:

> If empathy is so important in change agent effectiveness, how can it be increased? One method lies in the selection of change agents; those who have once been

> in the client's role are probably better able to emphasize with it. Thus, agricultural change agencies often seek to employ change agents who come from farm backgrounds.
>
> Sometimes novice change agents are given empathy training by living with a client family for some weeks or a month, so that they are able to see the world through the eyes of their clients. Likewise role playing (in which the change agent is asked to hypothetically act in the role of the client) is sometimes utilized as a training technique, to teach change agent empathy with clients.(6)

The major conclusion gained from the writings of Rogers and Shoemaker is that, yes, knowledge linkers for rural/culturally limited/minorities must receive different training than similar personnel serving other populations. It should also be noted that all the suggestions of Rogers and Shoemaker for increasing empathy have been incorporated in this training design. The training focusing on increasing empathy is primarily found within the internship experiences. The process oriented training program content is seen as generalizable to other settings assuming relevant internship experiences are devised.

d. Knowledge Linkage Within the Concepts of Dissemination and Utilization. An examination of the construct "knowledge linker" (herein employed) as amplified by Clark and Hopkins showed similarity to diffusion as treated by Clark and Guba. Everett Rogers is currently credited as an applied diffusion researcher. Diffusion is defined by Rogers as, "the process by which...new ideas are communicated to a social system."(5) Questions are appropriately triggered by the definition; what innovations, what social systems, what about organizational as opposed to individual communication, what happens after the

communications have occurred and etc.? Such questions suggest a broader posture must be assumed; one which places "diffusion" in the context of the total circular process from research into practice and back again. This task will be accomplished in several progressively more comprehensive steps. The first step will look at "diffusion" within the broader dissemination and utilization framework. This will be followed by a discussion of the several schools of thought concerning the paradigm of educational change, i.e., research, development, diffusion, and adoption, suggested by Clark and Guba. The third step in this ever broadening rationale will be to consider the place of "diffusion" and the schools of thought concerning educational change within the change process and the necessity for "change agents" or educational resource agents who function as linkers between the knowledge builders on the one hand and the knowledge users on the other.

Dissemination and utilization is, according to Havelock, an emerging important area of concern. Dissemination has traditionally been an appendage attached on as an after thought to efforts in research and development. However, there is an emerging new "science of knowledge utilization..., ...at best a crude art occupying the undivided attention of only a small scattering of scholars. ...there are no schools, no curricula, and few courses for training researchers and practitioners in this area, and there is as yet only a dim awareness on the part of the nation as a whole that this field deserves extensive public support." (As an aside, Havelock recommends that to establish this new

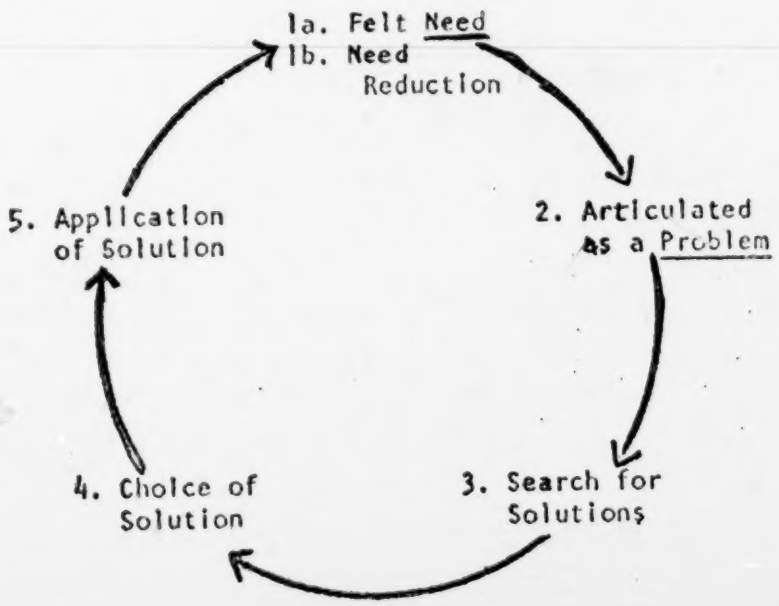
science there must be institutionalization, i.e., "we will need to create organizational bases, university-linked centers, research and teaching faculties and departments" in order "to develop training facilities and training programs to build a professional corps of dissemination and utilization consultants and change agents.(1)

Havelock identified, from his review of the literature, three models of the dissemination-utilization process: (a) the research, development and diffusion, (b) the social interaction, and (c) the problem solver models. The first model enters initially at the point of research and/or development with diffusion as a final stage in a linear approach. While proponents of this model might consider the consumers, "they (the consumers) do not enter the picture as prime motivations for the generation of new knowledge". His second model is concerned with the movement of messages from one or more persons to others; the content of the messages is typically not considered. A third model, problem solving, is concerned with reduction of the client's stated, implied, or assumed needs. The key concept of this model is the stress on "collaboration with the client system and diagnosis of the client system's needs."(1)

While Havelock synthesized the three models, indicating which elements of each are essential to a dissemination-utilization mix, he recommends "the need-reduction cycle (refer to Figure B.13, Page 51) as a necessary starting point..." Other elements of the dissemination-utilization mix include an eloborate division of labor along the lines suggested by the

research, development, and diffusion model in order to meet the complex needs of society and the complex message movement and communications process of diffusion under the social interaction model.(2)

Figure B.13



e. Knowledge Linking Within the Concepts of Research, Development, and Dissemination. Next, let us incorporate the three models of dissemination-utilization into the educational change process in order to consider the context within which to apply these models. Clark and Guba's paradigm of educational change, i.e., research, development, diffusion, and adoption, has been mentioned. This paradigm is applied by Havelock as a means of organizing the various schools of thought concerning the change process.

Conceptualizers from various disciplines have studied the change process; that classifications ranging from two-stage to ten-stage models have been proposed is not surprising.

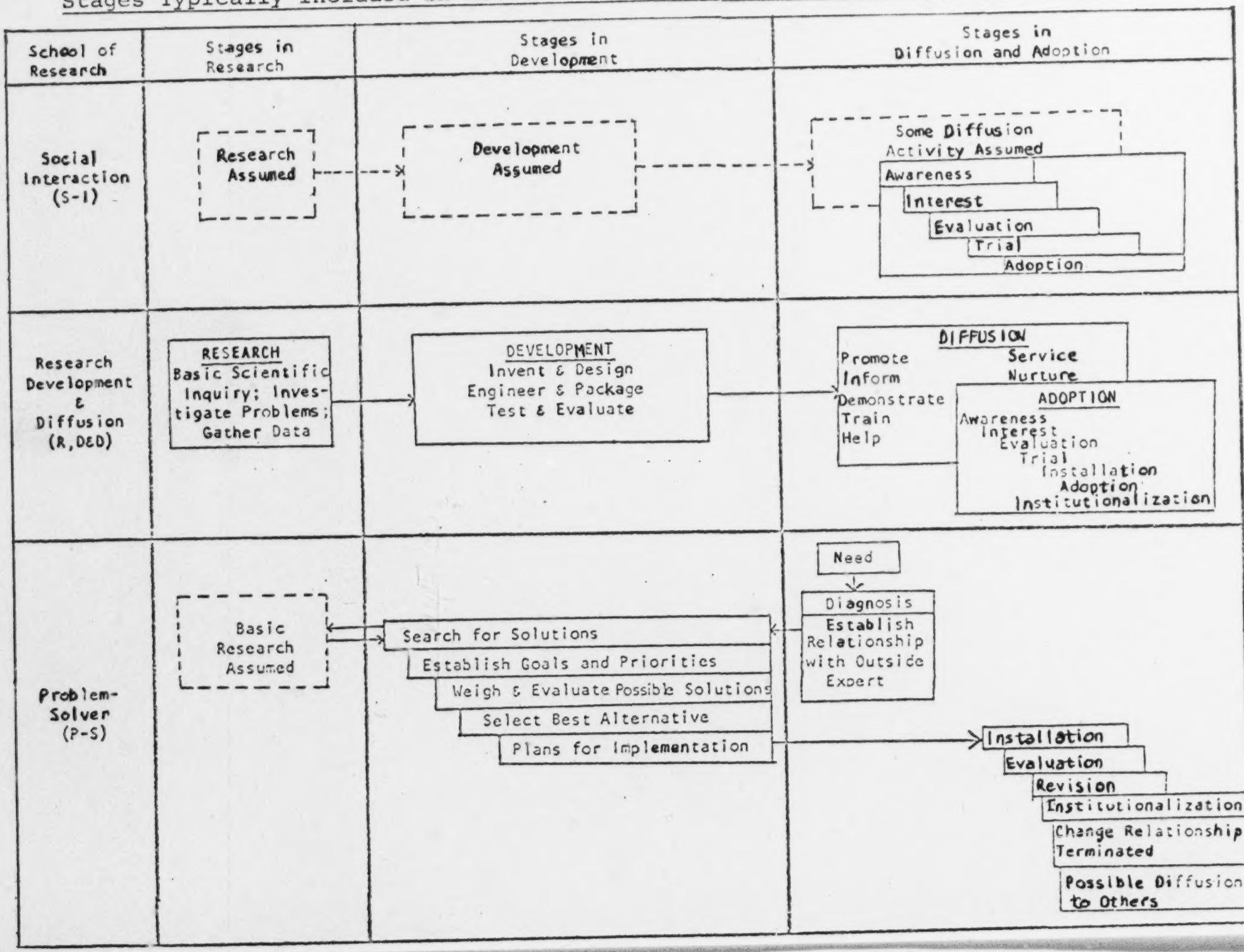
Clark and Guba's paradigm of the change process as related to education includes two stages of knowledge building, i.e., research and development, which precede the dissemination-utilization stage of diffusion and adoption. This suggests that change can occur both within the practitioner or client system as part of the diffusion and adoption stages, or external to the system at the knowledge building stages of research and development. This is in keeping with the linking model and internal-external change teams; both examples referring to the two-way linking which in reality must exist for the most effective educational improvements to occur. Figure B.14, taken from Havelock, summarizes the three schools of thought concerning social change: social interaction, research, development, and diffusion; and problem-solver. The following paragraphs will briefly review each of these schools.(1)

The social interaction school advocates "assume the existence of a diffusible 'innovation'..." and that some activities normally seen as part of the diffusion-adoption stage have occurred. Also, they are not especially concerned with the "value" of the "innovation". The critical areas of concern for this school as derived from the work of its advocates are:

1. The social relations network, i.e., innovations do not adopt themselves; a complex series of interrelating factors involving the individual adoptor and the network of systems with which he relates must be understood.

Figure B.14

Stages Typically included in Models of Change Within Three Schools of Research



2. The user's position within this social relations network, whether he is a leader or a follower, must be considered when diffusing an innovation.

3. The necessity for informal, personal, face-to-face contacts; simply "disseminating" in the traditional sense of communicating "down" to someone, or linking without feedback, is not enough.

4. What client systems the client identifies with most must be known; much can be gleaned from the diffusion setting if the client's identification is known.

5. That diffusion and adoption are relevant to any setting from the individual client to the largest client system.

6. That the diffusion approach as postulated by advocates of this school has practical value for identifying strategies to use in assisting clients to improve education.(2)

The content is so relevant to the change process that it is necessary to devote one-third of the program to it. The University of North Dakota will undertake this aspect of the training design under the process of diffusion. However, there are also some limitations to this school of change. Returning to Figure B.14, Page 53, it will be noted that the social interaction school is not directly concerned with research, development, and even with some aspects of diffusion. Another limitation is the lack of attention to the "psychological processes" operating within the users; concern is limited somewhat to an abstract change process.(2) Other schools of change must also be considered for their contributions to a full understanding of what constitutes well-prepared educational resource agents.

The second school of educational change is the most comprehensive one under which all of the other schools are structured: the research, development, and diffusion perspective. This school

of educational change operates in a linear and directional fashion. The stage of diffusion adoption must be "preceded by an extensive and complex process of research and development which usually includes...'basic research', 'applied research', 'development', 'production', and 'packaging'", these activities also occuring for the most part in a linear and directional fashion.(1) Possibly because of the linear and directional features, this school has conceptualized most extensively the research and development activities. The contributions of this school to the content of this training design include the following elements:

(1) A "rational sequence" of activities for knowledge building and utilization. The knowledge building and utilization activities are especially well conceptualized.

(2) That there must be planning or coordination of all the interrelated or linked elements in the complex process of knowledge building, and utilization.

(3) That a division of labor must exist among the roles of the persons or agencies performing the various activities of knowledge building and utilization.(1)

The R, D, and D school is limited by its assumption that a "passive consumer" exists "who will accept the innovation if it is delivered on the right channel, in the right way, and at the right time." In other words, "the R, D, and D model can be over-rational, over idealized, excessively research oriented, and inadequately user oriented."(2)

The final school of educational change is that of the problem-solver. This school is concerned with the individual and his needs; the identification of procedures for need reduction is a major concern. Havelock has proposed a six stage procedure for need reduction which serves as core content for the problem solving process (refer to Figure B.15). A second major concern of advocates of this school has been described by Havelock in these words; the concern "is closely associated with the human relations tradition of planned change and it represents basically a psychological 'user-oriented' approach to problems."(1) The following additional contributions relegate problem solving to an important role in the process of dissemination-utilization:

(1) "The user is the starting place"; value of the "innovation" must exist and the user must want or need it before diffusion will or should occur.

(2) Diagnosis of all the relevant aspects of the setting wherein the client's felt need exists must be undertaken, too many "innovations" have been diffused without any concern for the client or the setting in which the innovation will be used. (The movie projector in the school without electricity.)

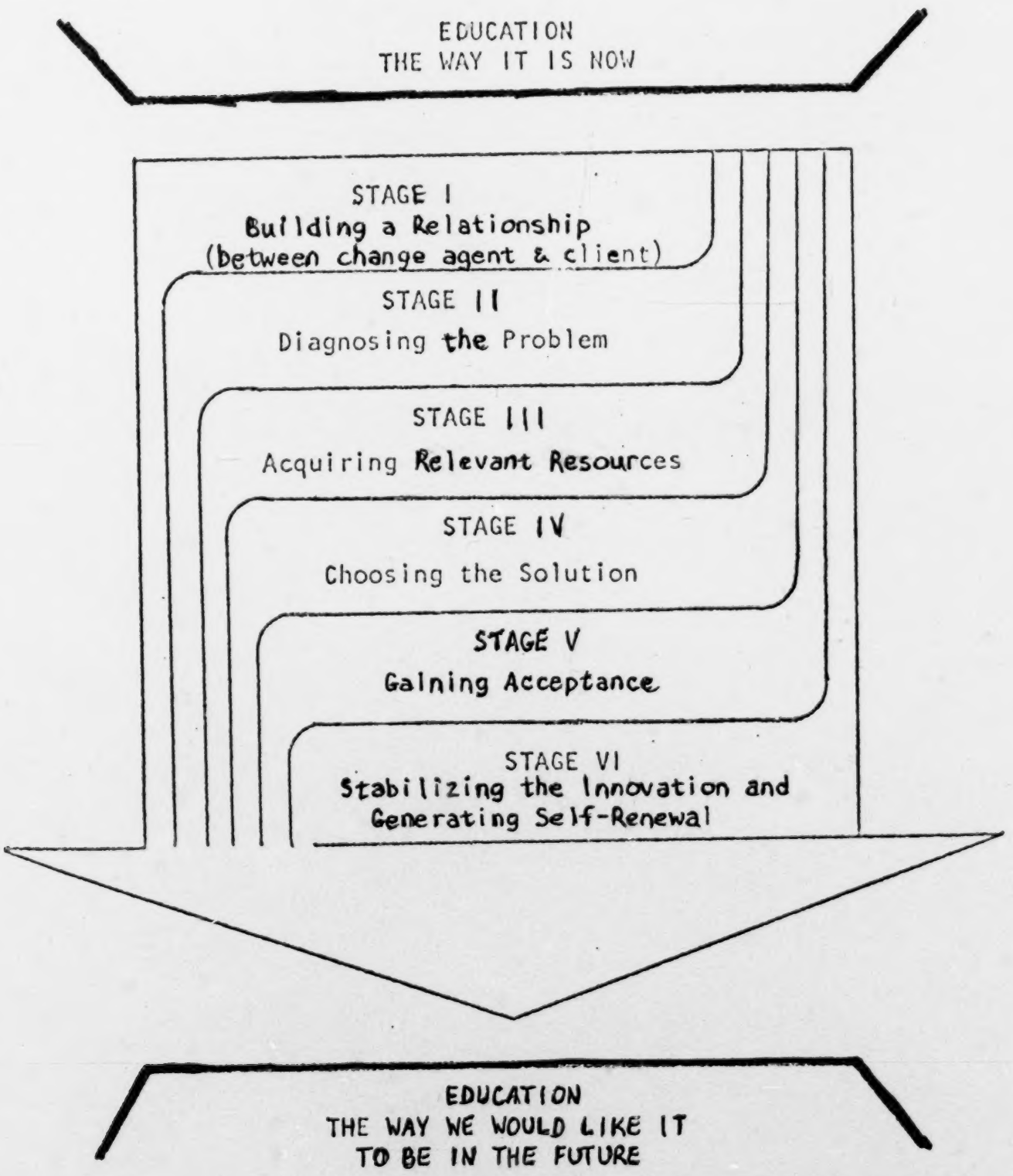
(3) The major emphasis on a non-directive approach; i.e., linking is a two-way process; the client must be involved, he must lead not simply follow.

(4) The recognition that "user-initiated change" is the most likely to be retained tomorrow.(1)

The problem solver school of change holds one possible answer for the perennial question of how to interrelate with people. This is a major concern, both among team members and,

Figure B.15

Six Stage Procedure for Need Reduction(1)



more importantly, linking with clients, users, or practitioners. Tuskegee Institute will utilize the expertise of its staff to provide training in the process of problem solving. The limitation of this approach include the lack of research and instructional materials development utilizing the conceptual model(s) of this school, the capacity of the user to undertake the role projected for him by this school, and the lack of concern within this school for the potential of research and development to contribute meaningfully to problem solving.(1)

C. OBJECTIVES AND PERFORMANCE CRITERIA

Seven performance (Mager-like) objectives[1] have been drafted with accompanying percentage-competency estimates. The percentage competency estimates are derived from an informal poll of authoratative individuals in the objective-content areas.[2] Estimates may be interpreted in a Bayesian "P" value fashion and are predicated upon a beta distribution rationale. The objectives will form the pivotal bases for overall program control, monitoring, evaluation and reporting.

	Competency Percentage Estimate			Performance Objective	Criteria Statements
	Pessimistic	Optimistic	Most Likely		
(1)	75	90	82.5	Evidence clarity in communications via human relations.	Human relations exposure converging in "concensus technique" developed by National Training Labs. (Peer count of ambiguity frequency during specified time) (after Bradford)
(2)	70	95	82.5	Identify the specific educational needs of a particular rural culturally limited minority in an assigned rural setting.	Relevant sociological-anthropological based variables supplied by Professors Lewis Jones, Tuskegee and Norman Greenburg, Peabody.

[1]Interpret objectives as "the specified percentage of trainees will evidence the skill as checked by the criterion item."

[2]Numbered among those polled were: (1) Dr. P. O. Lynch, Professor, Educational Administration, Penn State; (2) Dr. Wesley Handy, Partner, Educational Service Bureau; (3) Dr. William Arnwine, Professor and Chairman, Industrial Engineering, New Mexico State University; (4) Dr. James Cooper, Professor, Educational Psychology, University of New Mexico; and (5) Dr. Ray Lute, Associate Professor, Industrial Engineering, University of Oklahoma.

	Competency Percentage Estimate			Performance Objective	Criteria Statements
	Pessimistic	Optimistic	Most Likely		
(3)	65	85	75	Identify and describe the decision-making set of an assigned rural community.	Problem-issue location strategy by, McCormick, Flavia, "County Home Rule in Bexar County, Texas Examination of an issue-centered approach to Community Power Structure," thesis, Oklahoma State University, 1964 and Anderson, J. G.; H. Potter, and D. S. Willey, Contract #OEC-4-6000201 (1967).
(4)	60	85	72.5	Describe, apply and synthesize elements in an assigned rural school problem-issue situation.	An operational scheme devised by Ronald Havelock. Scaled by E. Krahmer.
(5)	60	80	70	Utilize step #3 data above, identify and retailor a tangible curricular product (knowledge package).	Technique to be further developed by E. Edington, C. Hall and C. Buethe.
(6)	55	75	65	Apply, evaluate, modify, and re-apply product, #4 above, in an on-site rural school.	Panel of judges approved by USOE in consultation with program directorate.
(7)	55	70	62	Diffuse throughout an on-site assigned rural school system, at the appropriate grade level, the curricular product described in #4 and #5 above.	Allow a nine months time factor. Operational schema of E. Rogers and F. Shoemaker.

D. PROJECT INVOLVEMENTS

1. Designation of Project Populations, Geographical Areas, Target States, and Identification of Institutions, Organizations and Agencies Which Comprise the Consortium

The over-all purpose of this project is the preparation of educational resource agents (problem-solving = development = diffusion personnel) for their appropriate involvement in the education of certain rural minority populations. A necessary first step towards the achievement of this over-all purpose is the multiple function of (a) designating the project populations categorized as rural minorities, (b) defining the geographical areas where concentrations of these populations are sufficiently large to justify their involvement in this project, (c) designating a target state for this project in each geographical area, and (d) ascertaining the institutions, organizations, agencies, etc. in each geographical area to be involved in the project. Figure D-1 provides this information.

2. Designation of the Administering and Prime Contractor, Description of Roles, and Explanation of Terms Under Which Constituent Units Agree to Combine their Resources

Another important step towards the achievement of the project's over-all purpose, also multiple in nature, is (a) the designation of an administering unit, and a prime contractor, (b) a description of the role and task each constituent unit will perform in the training consortium, and (c) an explanation of the terms under which the constituent units agree to combine their resources for training.

Figure D-1

Minority Populations Served	Geographical Areas	Target States	Institutions, Org: CONTENT AND INTERNSHIP TRAINING CENTERS (Colleges and Universities) Coordinating Institutions	Cooperating Institutions	ON-TH (State State L
Blacks Culturally Limited Whites	Southeastern United States	Alabama	Tuskegee Institute	Florida State University	
Indians Culturally Limited Whites	Midwestern United States	North Dakota	University of N. Dakota	North Dakota State University	
Mexican-Americans Indians	Southwestern United States	New Mexico	New Mexico State University	Navajo Jr. College	

Figure D-1

Institutions, Organizations, Agencies Etc. Involved		
D INTERNSHIP G CENTERS Universities)	ON-THE-JOB TRAINING CENTERS	TRAINING DESIGN CONSORTIUM
Cooperating Institutions	(State Departments of Education, State Intermediate Agencies, Local School Districts)	National Federation for the Improvement of Rural Education (Additional consortium members)
Florida State University	Alabama	- Northwest Educational Laboratory Portland, Oregon - Southwestern Cooperative Educational Laboratory Albuquerque, N. M. - Southeastern Educational Laboratory Atlanta, Georgia - Appalachian Educational Laboratory Charleston, W. Va. - ERIC-CRESS Center Las Cruces, N. M.
North Dakota State University	North Dakota	
Navajo Jr. College	New Mexico	

a. The Designation of the Administering Unit and the Prime Contractor. The administering unit for the project will be a management team composed of appropriate representation from the National Federation for the Improvement of Rural Education (NFIRE) and Tuskegee Institute. The sponsoring agency will be NFIRE. The prime contractor will be Tuskegee Institute, an institution of higher learning located in the heart of the deep south, attended primarily by black students and serving primarily black, rural, communities. Tuskegee will be responsible for managing, monitoring, cost accounting, evaluating, and auditing services related to the project. Part III will review in detail the respective roles of NFIRE and Tuskegee Institute.

b. A Description of the Role Each Constituent Unit Will Play in the Consortium Training Program. The roles of the participating constituents in the training consortium are as follows:

(1) Content Training Centers - Coordinating Institutions

As per Figure D-1, Page 62, Tuskegee Institute, the University of North Dakota, and New Mexico State University will serve as coordinating institutions. As such their general roles are dualistic in nature -- (1) to provide content and internship training for the trainee participants (See Part III for a detailed description of this content-internship training service), and (2) to relate the services of the respective cooperating institutions in the consortium to the functions of

their coordinating colleges and universities. In providing content and internship training, each of the coordinating institutions will provide a core course in problem-solving, development, and diffusion for each of its participating trainees. To provide the in-depth training so necessary for this project, however, each of the three institutions will also concentrate on one of the three training components indicated. Tuskegee Institute will emphasize "problem solving"; New Mexico State will focus on development; and the University of North Dakota will stress diffusion. To provide the "multiple social-sensitivity" intended, trainees in each institution will "rotate" through each of the other two institutions thus being provided the necessary training exposure and involvement in each of the four sub-cultures being served by the project. Each institution will release its instructional personnel to serve in the appropriate supervisory and resource capacities during the on-the-job employment periods. (See Part III for a detailed description of the training programs in the three coordinating institutions of higher learning.)

In terms of time involvement, each coordinating institution will operate on a 4-summer, 3-full school year basis, as depicted in Figure D-3, Page 65. Each summer includes resident instruction and internship training involvement, while each full-school year is a guided practicum embracing a special follow-up, short-term participating period which will complement the trainee's yearly employment.

Figure D-3

Sequential Time Pattern For Total Program

1971 Feb.	1971 June	1971 Aug.	1972 June	1972 Aug.	1973 June	1973 Sept.	1974 June
½ year	Summer 1st yr.	Following Full-year Follow-Up	Summer 2nd yr.	Following Full-Year Follow-Up	Summer 3rd yr.	Following Full-Year	
Overview and General Orientation	Content and Internship Training	On-the-Job Training	Content and Internship Training	On-the-Job Training	Content and Internship Training	-Role Reinforcement Training -Plugging Detected Training Gaps -Additional Training Programs (Para-Professionals, etc.) -National Diffusion -Internal Evaluation	

(2) Content Training Centers - Cooperating Institutions

Another look at Chart I reveals that Florida State University, and Alabama State University will serve as cooperating institutions with Tuskegee Institute; North Dakota State University will aid the University of North Dakota; Navajo Junior College will serve as partner institution with New Mexico State University. As cooperating institutions, these colleges and universities will provide the appropriate observation, consultation and research to complement the content and internship training programs of their respective coordinating colleges and universities.

(3) State Departments of Education

State departments of education will serve the project as on-the-job training centers. These state departments will cooperate very closely with their respective coordinating and cooperating colleges and universities.

(4) State Intermediate Agencies and Local School Systems

State intermediate agencies and local school systems in the three target states, like the state departments of education, will also serve as on-the-job training centers and will cooperate very closely with their respective coordinating and cooperating colleges and universities and their respective state departments of education. (See Part III for a detailed description of the "state department-intermediate agency-local school system" team design in the training program.)

(5) National and Regional Organizations and Agencies

The National Federation for the Improvement of Rural Education (NFIRE). NFIRE will serve the triple role of (1) sponsoring organization for the project, (2) a part of the management team with a special monitoring function, and (3) a resource for the provision of consultative and related services. As a federation of many qualified institutions, organizations, and agencies, NFIRE can make available some of the best talent in the nation in carrying out its three-fold function, as mentioned above. (See Part III for detailed data relative to NFIRE).

The Regional Educational Laboratories. These agencies will be The Northwest Regional Educational Laboratory (NWREL), The Southwestern Cooperative Educational Laboratory, (SWCEL) the Southeast Educational Laboratory (SEL) and the Appalachian Educational Laboratory (AEL). Their major roles will include (1) the sponsoring of content training workshop (NWREL), (2) the provision of consultative services (NWREL) (SWCEL) (SEL) (AEL), and (3) participation in research activities related to the project (NWREL) (SWCEL) (SEL) (AEL).

The Educational Resource Information Center for Rural Education and Small Schools (ERIC-CRESS). This is the designated Federal source of documents descriptive of rural and interethnic education. ERIC-CRESS' role will be to serve as a project information base.

3. Explanation of Terms Under Which Constituent Units Agreed to Combine Their Resources for Training

Each of the constituent units in the training consortium has been actively and continuously involved in the planning of the project and the preparation of this proposal. In this way each unit has had the opportunity to indicate, within the framework of the project's objectives, the way in which it (the constituent unit) can best serve the project in its designated role. Each constituent unit has also had the opportunity to relate its program and its budget to each of the other units and thus under the terms of mutual comprehension and a desire to participate has agreed upon a concensus method as to how best to combine the units' resources for training. Letters of commitment in this regard from all constituent units are included in the appendices of this proposal. The section on description of training program operation (Part III) serves as the contract by each institution for services rendered, while Part IV, the budget, serves as the contract for compensation to be received.

4. Institutional Roles and Related Professional Staff

Figure D-4 provides an overview of the structure of this training design. The coordinating institutions are shown by the solid lines, while on-the-job and other supportive institutions are shown by the dotted lines. Under each institution will be found a listing of institutionsl tasks and personnel where appropriate.

Figure D-4

Schema of Institutional Roles and Related Professional St

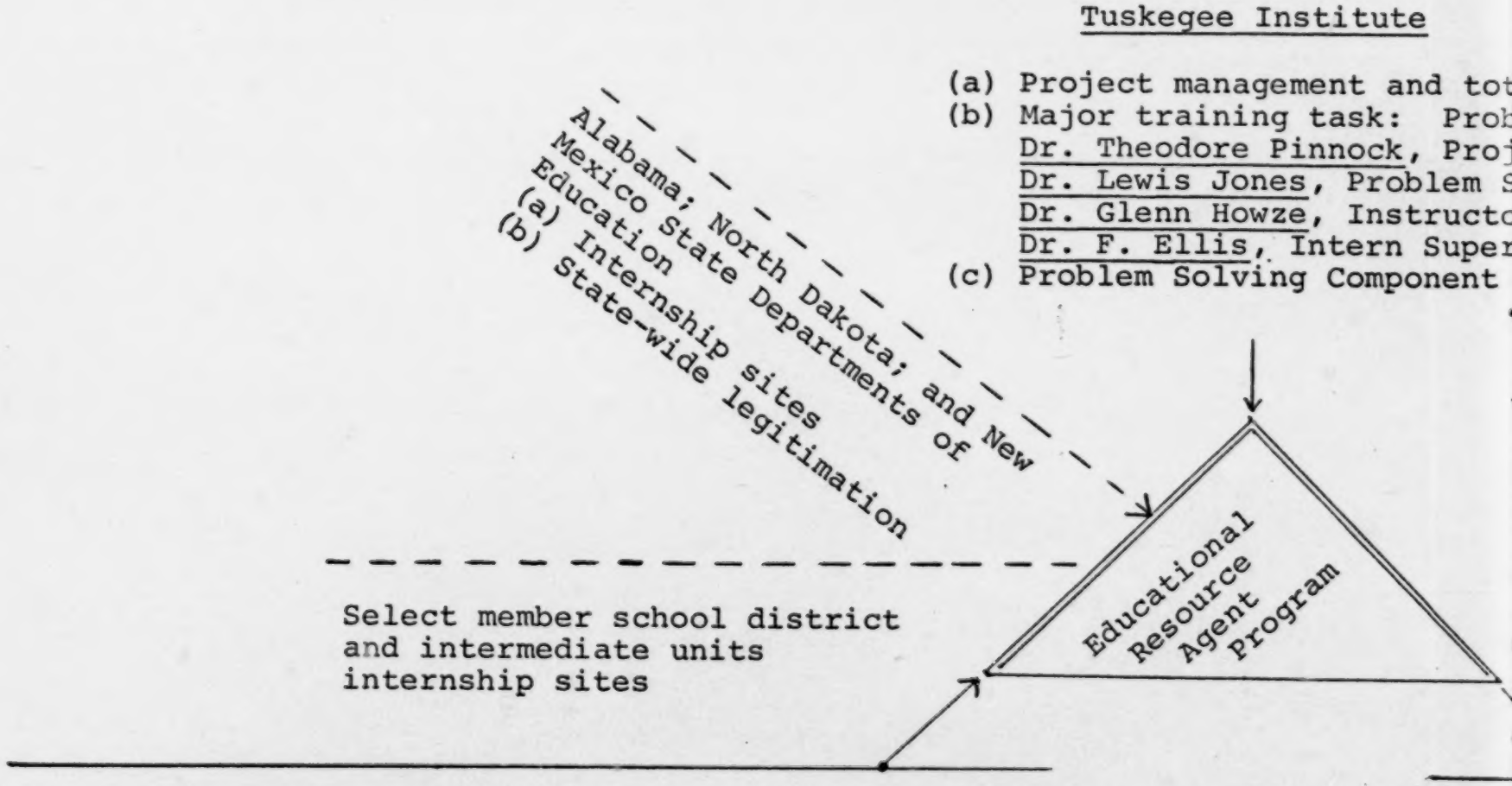
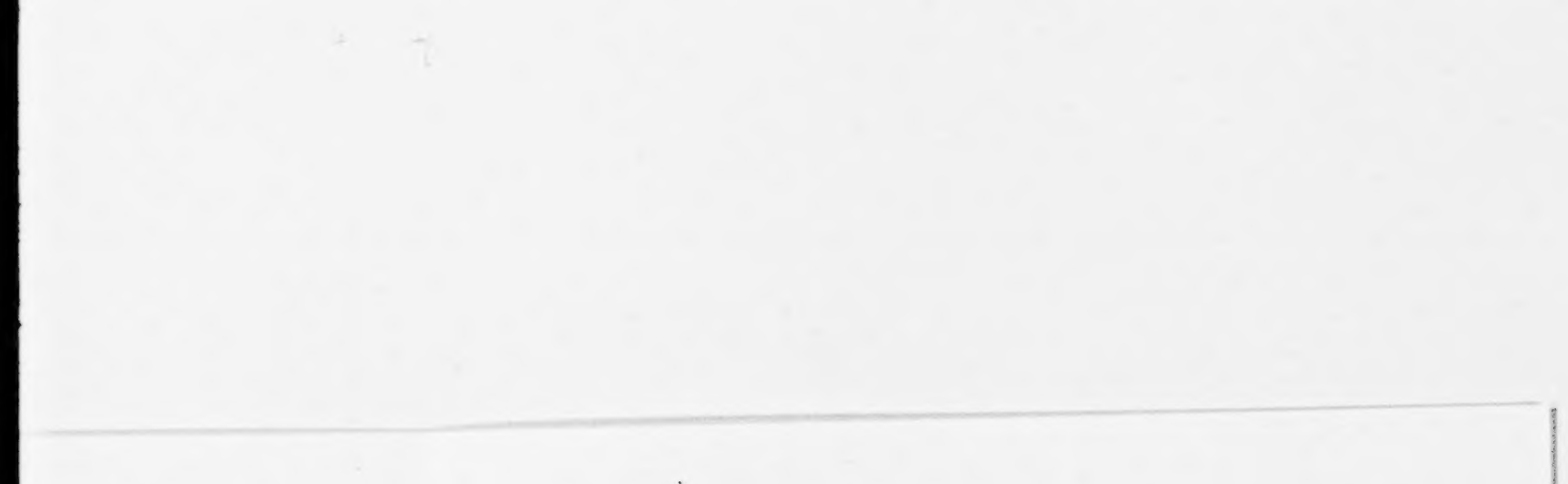

Tuskegee Institute
(a) Project management and tot
(b) Major training task: Prob
Dr. Theodore Pinnock, Proj
Dr. Lewis Jones, Problem S
Dr. Glenn Howze, Instructo
Dr. F. Ellis, Intern Super
(c) Problem Solving Component
Alabama; North Dakota; and New Mexico State Departments of Education
(a) Internship sites
(b) State-wide legitimation
Select member school district and intermediate units internship sites
Educational Resource Agent Program
University of North Dakota
(a) Major training task: Diffusion
Dr. Edward Krahmer, Component Director
Dr. Harvey Jacobson, Instructorate/Intern Supervisor
Dr. Keith Stamm,
Dr. John Bowes,
Dr. Ronald Johnson,
(b) Diffusion Component Evaluation and Reporting
(c) Communication Research Center: Conduct research resulting from this design
Regional Laboratory Relatio
(a) NWREL, major trends in ru
education, Dr. Ray Jongewa
Component Director
(b) AEL, Appalachia access
Dr. Ben Carmichael, Direct
(c) SWCEL, Oral Language Progr
Chicano/Indian Programs,
Dr. James Olivero
(d) SEL, Programs for rural schools, Dr. Tidwell

Figure D-4

d Related Professional Staff of Consortium Participants

Tuskegee Institute

roject management and total program evaluation and reporting
ajor training task: Problem Solving
r. Theodore Pinnock, Project Contractor and Manager
r. Lewis Jones, Problem Solving Component Director
r. Glenn Howze, Instructorate
r. F. Ellis, Intern Supervisor
roblem Solving Component Evaluation and Reporting



National Federation for the Improvement of Rural Education
(a) Dissemination
(b) Consultative resources
(c) Regional Laboratory relations: SWCEL; AEL; NWREL; and SEL.

gional Laboratory Relations

NWREL, major trends in rural education, Dr. Ray Jongeward, Component Director
AEL, Appalachia access Dr. Ben Carmichael, Director
SWCEL, Oral Language Program Chicano/Indian Programs, Dr. James Olivero
SEL, Programs for rural schools, Dr. Tidwell

New Mexico State University

(a) Major training: Development
Dr. E. D. Edington, Component Director
Dr. A. P. Wilson, Instructorate
Dr. C. D. Hall, Intern Supervisor
(b) Product development component evaluation and reporting
(c) ERIC-CRESS: Product Packaging

5. Resource Specialists

Four of the institutions, Tuskegee Institute, New Mexico State University, University of North Dakota, and the National Federation for the Improvement of Rural Education, will be presented by a contract for specific activities. Detailed descriptions of the specific activities and responsibilities of each contractor have been previously presented; this section will be concluded with the identification by contractor of the personnel who will be involved in this program and the nature and extent of their involvement. First, selected national consultants who will assist each institution in the development of its respective training specialty will be identified:

Tuskegee Institute - Problem Solving

Dr. Ronald Havelock - University of Michigan
Dr. William Morris - University of Michigan
Dr. James Gunnell - The Ohio State University

University of North Dakota - Diffusion

Dr. Everett Rogers - Michigan State University
Dr. Floyd Shoemaker - Michigan State Division of Higher Education

New Mexico State University - Development

Dr. Phil Barck - New Mexico State Dept. of Education
Dr. John Uxer - Regional XIX - Education Service Center, Texas Education Agency

1. Havelock, Ronald. Planning for Innovation Through Dissemination and Utilization of Knowledge, Ann Arbor, Michigan: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, July, 1969.

2. Clark, David and John Hopkins, A Report on Educational Research, Development and Diffusion Manpower, 1964-1974, Bloomington, Indiana: University of Indiana, 1969.

3. Havelock, Ronald, "Assembling the Pieces of the Educational Revolution" an address to the "President's National Advisory Council Conference on Innovation" Washington, D. C., March 31, 1970.

4. Rogers, Everett with Floyd Shoemaker, Communication of Innovations: A Cross-Cultural Approach, New York: Free Press of Glencoe, 1971.

5. Havelock, Ronald, A Training Model for Change Agents in State Education Agencies, an interim report to the U. S. Office of Education, Ann Arbor, Michigan: Center for Research on Utilization of Scientific Knowledge, June 30, 1970.

6. Rogers, Everett and Lynne Svenning, Managing Change, San Mateo, California: San Mateo County Schools, 1969.

7. Moe, Edward O., "The Changing Rural Scene", in Proceedings of A National Working Conference on Solving Educational Problems in Sparsely Populated Areas, Everett D. Edington and Jane Musselman, editors, Las Cruces, New Mexico, ERIC Clearinghouse on Rural Education and Small Schools, 1969.

PART III

SCOPE OF WORK PROPOSED

A. INTRODUCTION TO TRAINING PROGRAM OPERATION

1. Types and Numbers to be Trained
2. Theoretical Structure or Logical Framework for the Various Training Programs
3. Content, Methods, Length, Structure, and Integrative Mechanisms of the Various Training Programs
4. Faculty

B. TRAINING PROGRAM COMPONENTS

1. Consortium Coordination
2. National Federation for the Improvement of Rural Education
3. Staff Orientation Workshop
4. Short-term Orientation Course for Trainees
5. Tuskegee Institute -- Problem Solving
6. University of North Dakota -- Diffusion
7. New Mexico State University -- Development

A. TRAINING PROGRAM OPERATION

1. Types and Numbers to be Trained

Reference is made to the organizational linkage diagram presented as Figure A.1. Under this figure will be found a summarization of some key information concerning the personnel to be trained for each organization level shown in the diagram; i.e., state, intermediate, and local. At the state level the processes of concern to the trainees will be searcher, adaptor, developer, at the intermediate it will diffuser and at the local it will be problem solver. These processes and the basis for their application to a specific organizational level were further developed in the rationale, Section B of Part II. Applying the knowledge continuum described by Everett Rogers with Floyd Shoemaker in Communication of Innovations: A Cross-Cultural Approach, the state level personnel will be especially concerned with developing understanding of principles, the intermediate with awareness, and the local with how to do it knowledge. Also presented under Figure A.1 will be found the following short descriptions of the potential role of the trainees at each organizational level:

State:	Searches out innovations, adapting or developing where the situation demands; emphasizes principles behind innovations.
Intermediate:	Links innovations to local settings; creates awareness at local level of new and innovative developments.
Local:	Identifies local problems, works with local people to identify solutions and shows how to use solutions.

Figure A.1

Paradigm of Knowledge Utilization Process in Education
Including Specification of Change Agencies and Educational Resource Agents

KNOWLEDGE CREATION (by researchers and others)	ERIC System	LINKING BY CHANGE AGENCIES			KNOWLEDGE USE (by school personnel and others)
		State Educational Agency	Intermediate Educational Agency	Local Educational Agency	
		Coordinator of Educational Diffusion Information Retrieval Specialist	Field Specialist in Educational Diffusion	District Coordinator of Educational Diffusion	
	Processes	Searcher Adaptor Developer	Diffuser	Problem Solver	
	Types of Knowledge	Principles	Awareness	How-to-do-it	
	Role of the Trainees	Searches out innovations, adapting or developing where the situation demands; emphasizes principles behind innovations.	Links innovations to local settings; creates awareness at local level of new and innovative developments.	Identifies local problems, works with local people to identify solutions and shows how to use solutions.	

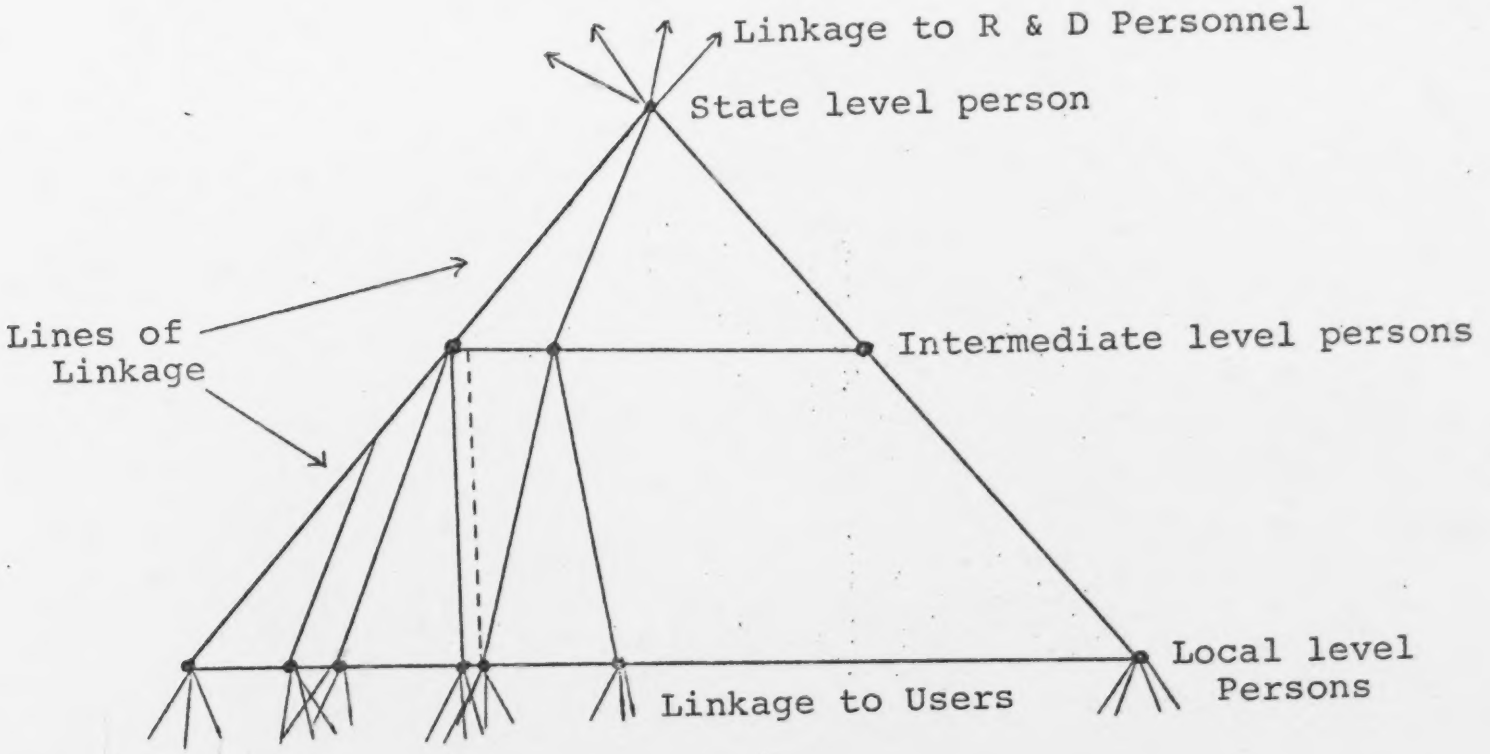
This multi-level team approach to the utilization of knowledge for the improvement of education is obviously pyramidical in nature. The base, or broadest element, of the pyramid is formed by the many local levels. It is recommended that there be at least one person with the training and experience described in this report available to every school and educator. This might mean one person shared between several smaller districts or a team of trained personnel within a single larger urban district. (It should be noted again that the training content of this program, with the exception of the concluding workshop on awareness of developed educational products, would remain substantially the same whether personnel for rural or urban settings were being trained; however, some modifications in the emphasis of the internship would be desirable.). The local personnel would maintain close contact on one hand with the staffs, students, and communities served by their employer(s). On the other hand, contact would be maintained with the intermediate level personnel for awareness of and information concerning new products or innovations in education.

Intermediate personnel will be the knowledge linkers for the local "change agents" much as the local persons will be the knowledge linkers for the staffs, students, and communities they serve. Intermediate personnel will in turn, maintain knowledge links with the apex of this pyramid; the state level personnel. The state personnel will be concerned with the state's list of goals and priorities, the resultant critical problems of the state, the identification of innovative solutions to the problems, and the

transmission of awareness concerning these innovations through the intermediate level personnel. These state level personnel must, in turn, maintain knowledge links with a variety of persons and agencies which extend beyond this pyramid. This pyramidical concept is presented in Figure A.2.

Figure A.2

Personnel Pyramid



This diagram raises a question for research during the design demonstration phase; how many intermediate level persons can one state person link with effectively and in turn, how many local persons can each intermediate level person link.

These dotted lines indicate the possibility of more than one intermediate level person working with a single local level person. This might be a very logical happening; especially if specialization occurs among the intermediate personnel. While this diagram indicates only one state level person, more than one in different specialities with overlap in their linking to intermediate personnel will in reality occur. Also this diagram does not indicate the anticipated common occurrence of several local level personnel within a single employing agency with resultant specialization of functions.

Returning to a consideration of the number of personnel to be trained; the question of how many persons at each level of the pyramid can work effectively with one person at the next higher level, or the converse, is unanswerable. Span of control industrial research suggests approximately eight to ten. However, this question remains to be tested and forms one of the research objectives of this project. Suffice it to say, granted limited financial support for this program, the desire to demonstrate its potential in a variety of settings under a number of different cultural and organizational frameworks, plus the necessity to involve at least two people at the state level in order to assure a supportive atmosphere at this level, dictates the following team structure in each of the three demonstration sites; ten local level, four intermediate level and two state level trainees.

A more definitive description of the role for which the trainees will be prepared at each level is contained in the following job summary. This description is prepared according to the model and specifications given by Shartle. The description is based upon a review of the relevant literature on diffusion and change for functions to be performed by diffusion or change personnel.

JOB DESCRIPTION

1. Educational Resource Agent: Rural Problem Solver, Developer, Diffusionist.

2. The Current Dictionary of Occupational Titles classification does not list a title for this position.

3. Place of employment will be state department of education, research and development centers, regional educational laboratories, intermediate units and local school districts.

4. Appraises community and its schools in accordance with socio-cultural minority characteristics variables present. Such characteristics include: language, ethnic character, human geographic factors, decision maker set, religion, economic support and kindred. Produces a statement of educational need, is conversant with literature of educational, social and behavioral sciences as applied to instructional-curricular and other pedagogical modifications. Devises and tailors diverse instructional-curricular and other product packages and programs for school use. Subjects those packages and programs to field tests via evaluation processes, makes modifications and retests.

   Field tests may/may not require demonstration teaching with appropriate pupils. Diffuses product to target school districts, target teachers and other personnel concerning application and subsequent evaluation of packages. Services and maintains installed programs and solutions.

5. Supervision is typically given by one or more of the following: smaller district superintendents, directors of curriculum, curriculum coordinators, supervisors, principals, and state department of education executives.

6. Level of Difficulty: (a) may be responsible for the cooperation of others, security of various pieces of instructional equipment, and the work of others; (b) requires a degree of risk-orientation; (c) peer group and superior(s) acceptance; (d) written clarity and expression; and demonstration teaching skills.

7. Work setting may be within one or multiple elementary/secondary schools. Assignments may be from central school office, SEAs, regional educational laboratories, or research and development centers.

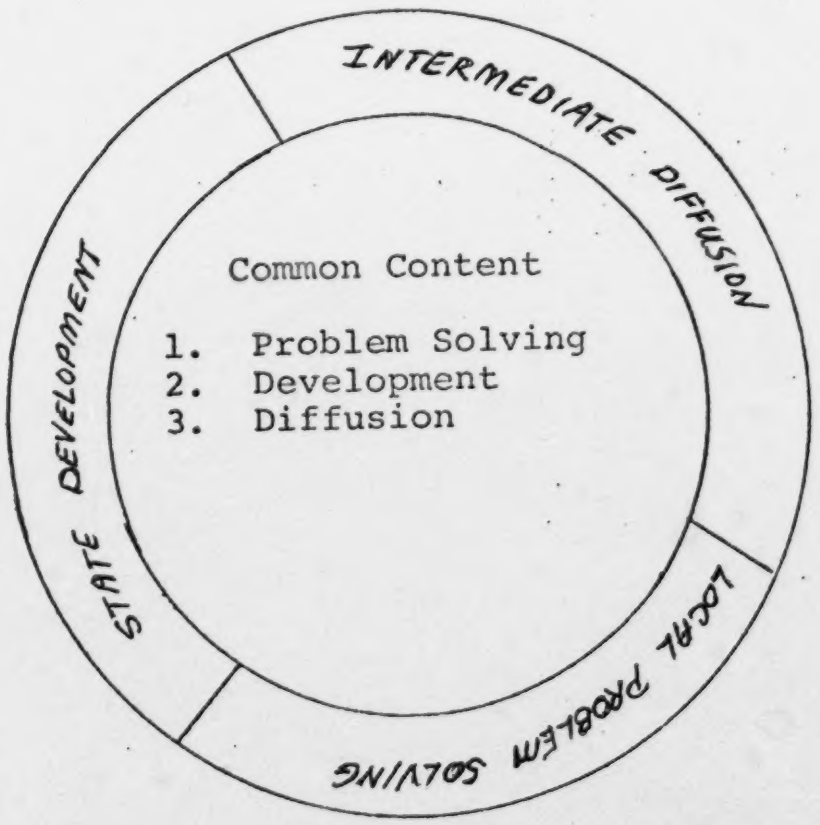
8. Previous experience: Two or more years of teaching or kindred experience. Such experience should be reported as successful by one's immediate past employer.

9. Necessary education includes a minimum of a bachelor's degree. Facility in the Spanish language, a Kersian or Athabaskan dialect, for those dealing with Chicano or American Indian clientele; familiarity with change management paradigms.

While the preceding job description indicates that there will be controlled commonality in the preparation of the trainees, whether they be prepared for local, intermediate, or state agency employment, there will be as well some specified differences in the preparation according again to employment level. Figure A.3 reveals these differences:

Figure A.3

Relationship of Core and Speciality Content of Training Design



This figure reviews once more the state-development, intermediate-diffusion, and local-problem solving specialization anticipated for the team members. This figure also clearly indicates the common core content in all three processes which will form the major portion of the training program. This specialization breakout relates to the broader educational R, D, and D picture in the following schema suggested by Dr. Benjamin Carmichael. (Refer to Figure A.4)

Carmichael has described the key interrelationships in product development and diffusion. His paradigm, Figure A.4, sets forth a ten-step process. Sequential test application and immediate product modification are attractive features of the model. A reasonably firm and semi-final "package" is typically marketed at the implementation phase, step 10. However, it is at steps 4, 6, and 8 that the results of the product development efforts are linked with the resource agent team members and it is steps 1, 3, 5, 7, and 9 of product diffusion and change support that the resource agent team members can most effectively manage change and educational improvement.

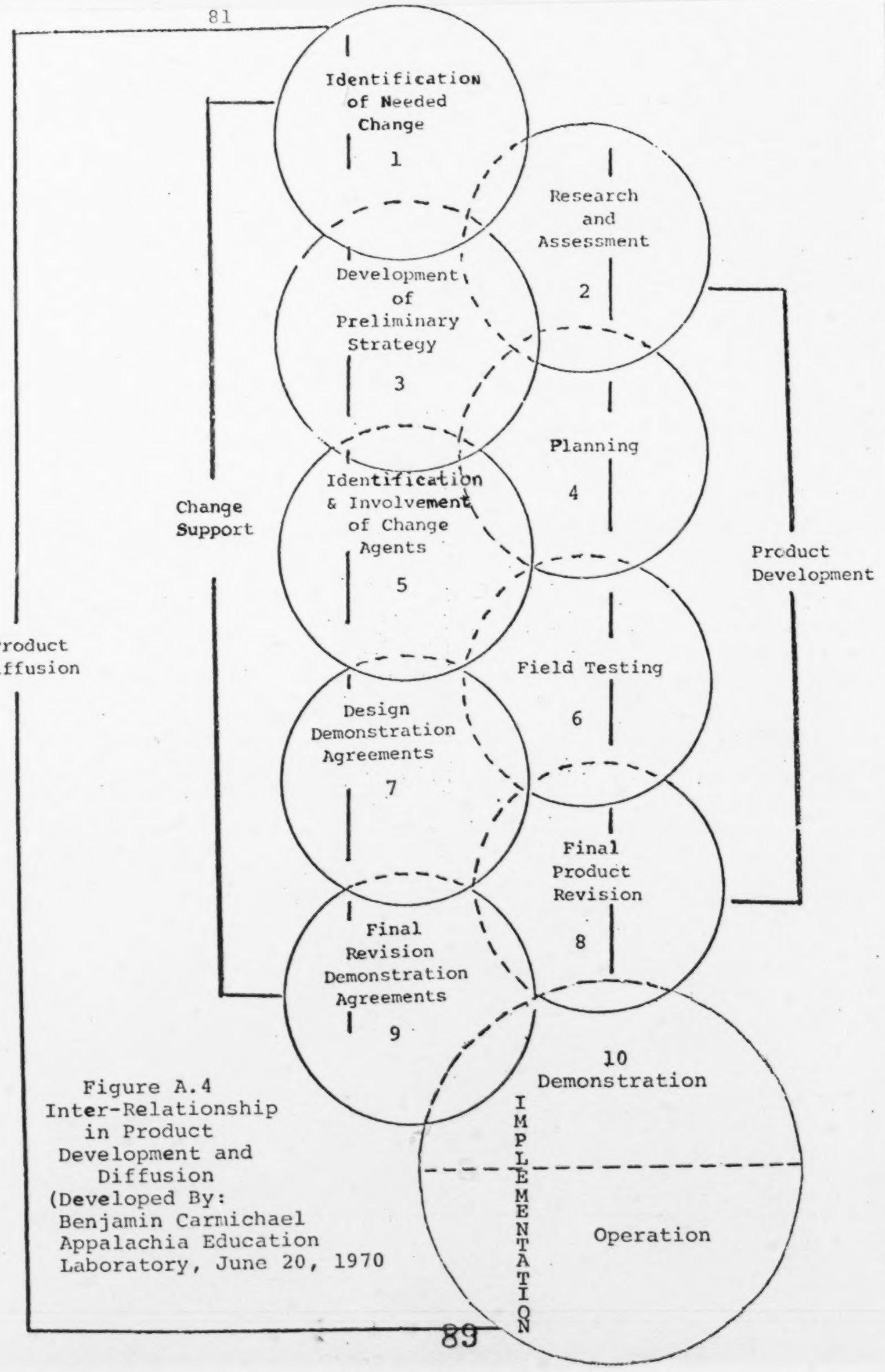


Figure A.4
Inter-Relationship in Product Development and Diffusion
(Developed By:
Benjamin Carmichael
Appalachia Education Laboratory, June 20, 1970

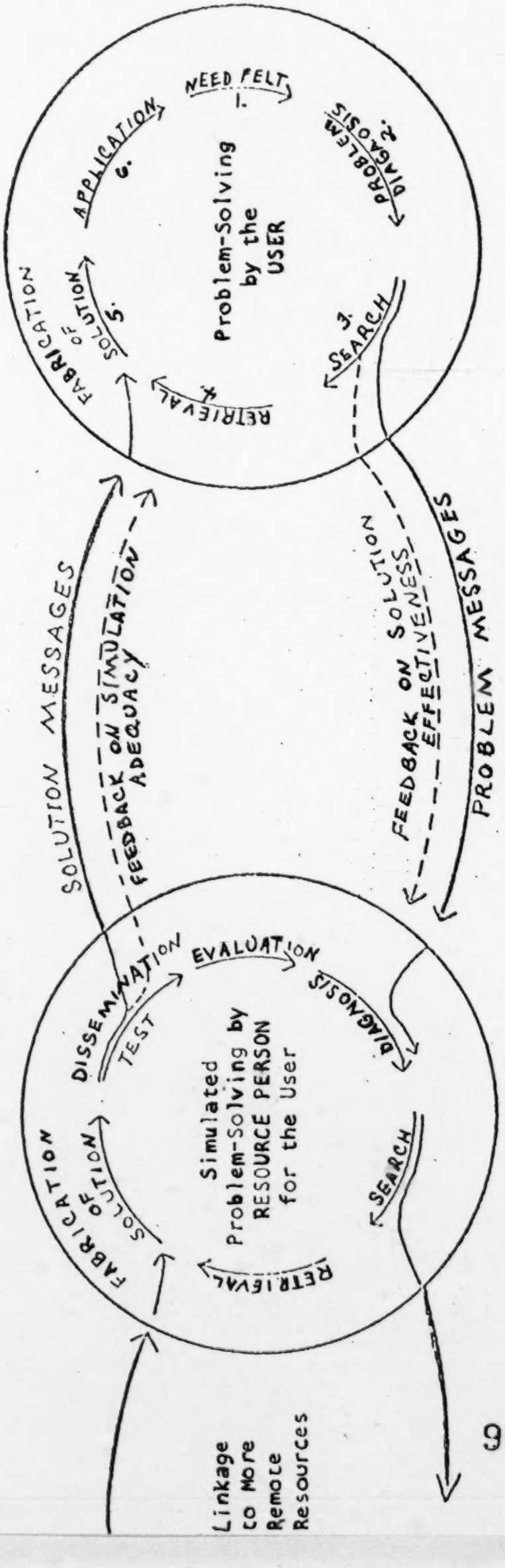
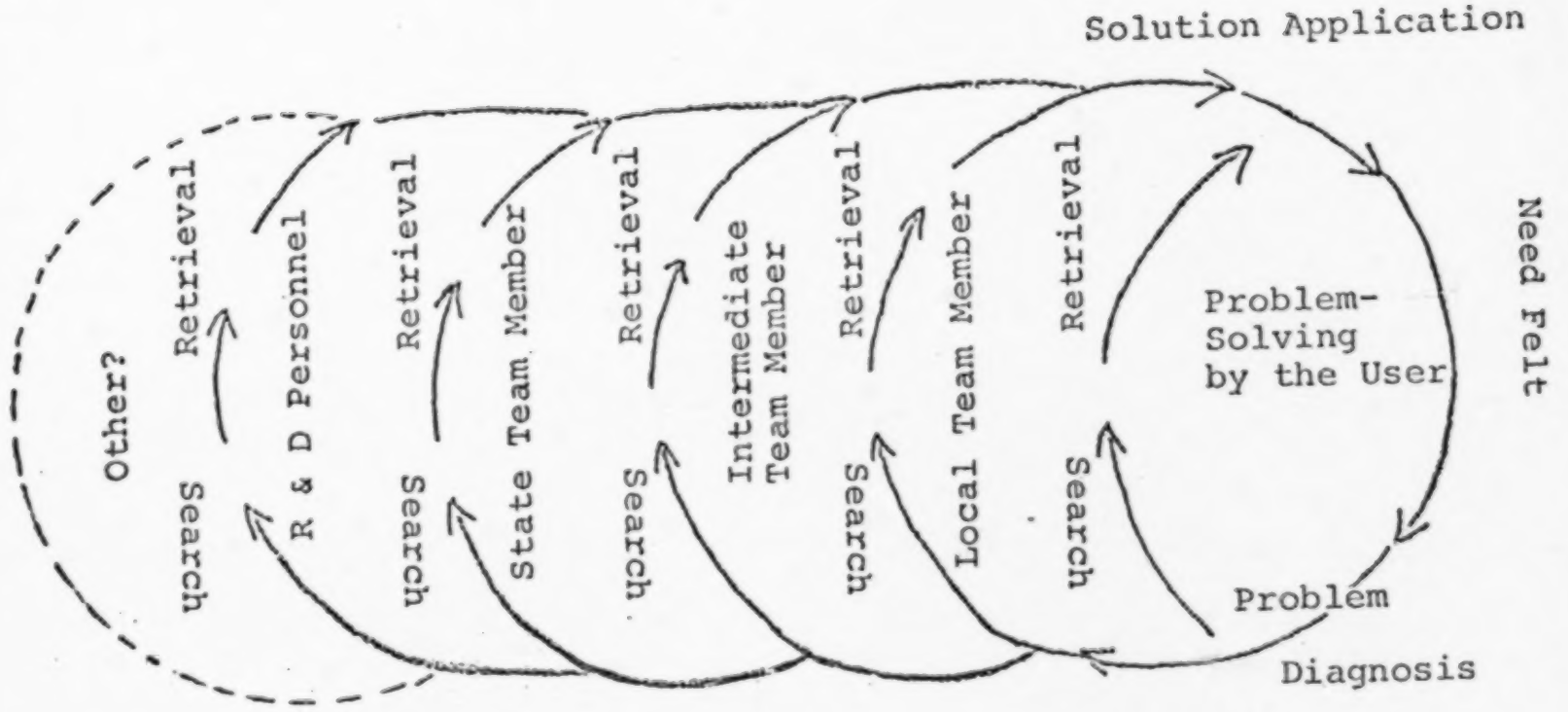


Figure A.5

The Linkage Process

Figure A.6

Linkage and Problem Solving



A third mode of looking at the linkage process through the eyes of a problem solver was suggested by Ronald Havelock. Problem solving is initiated when the user has a felt need. The user usually attempts in a formal or informal manner to diagnosis, search, retrieve, solve, and apply the solution to the problem.

The user often requires the assistance of others to assist him in this process. All those assisting the user imitate problem solving with a similar felt need. But, each of the assisters can call upon a different fund of experiences in order to reach beyond the user especially in the search and retrieval stages. Via the linkage process shown in Figure A.5, and through the formalized team structure, it will be possible to achieve the desired outcome shown in Figure A.6 where each level of team member extends to a greater degree the user's ability to diagnosis, search, retrieve, and solve his problems.

Now turning to a consideration of the common core content and the speciality content required for each employment level, one or two page descriptions for each content area will be found. Each description will briefly summarize the attitudes, values, knowledge, and skills required of an educational resource agent in order that he might be capable of performing the responsibilities required of him. Resources of the training, internship, and on-the-job sites for developing these attitudes, values, knowledge, and skills will be found in Section C of Part II and subsection 4 4 of this Section.

These listings are based upon personal communications with Dr. Ronald Havelock on May 20, October 2, November 6, December 2, and December 8-9. The example upon which these listings are based was taken from Havelock, A Training Program for Change Agents in State Education Agencies, an interim report to the U. S. Office of Education, June 30, 1970, Page 6. Only one modification was made; the heading, responsibilities, was substituted for specialization. The items within these listings are primarily based upon the work of Ronald Havelock and Everett Rogers.

Responsibilities of Educational Resource Agents -- Common Core

Knowledge and Skills

The Educational Resource Agent must be capable of:

1. Initiating and maintaining contacts with the users of his services at the local, intermediate, state, and national levels.
2. Understanding the processes of individual and group dynamics, and how to affectively apply these processes to everyday situations.
3. Assessing the human relations and public relations aspects of his work.
4. Identifying the critical and/or felt needs of the users.
5. Aiding users in self-identification of their critical or felt needs.
6. Assisting users in establishing realistic goals for the improvement of education.
7. Application of the problem solving approach to diagnosing, retrieving, solving, installing, and maintaining a solution to a defined need.
8. Adapting existing or developing new solutions to felt needs.
9. Structuring the educational improvement effort via a process of negotiation of individual and group concerns until common ground is found.
10. Communicating to users and other resource agents information in order to maintain awareness of new educational applications.

Attitudes and Values

The Educational Resource Agent must have:

1. An appreciation of the value of each individual person and his importance to the problem solving process.
2. The realization that there are human barriers, i.e., individual and group attitude formation and change, to educational improvement efforts which can not be changed "overnight."

3. A concern for the cultural differences between himself and the users he serves.

4. The belief that significant educational improvements can still be made.

5. An openness to all forms which educational improvement might take; not biased toward any one form.

6. An interest in and willingness to function as an educational resource agent as the role is defined on this and the following pages.

7. A willingness to consider the highly technical research and development literature without the traditional user response to research.

Responsibilities of State Development

Knowledge and Skills

The Educational Resource Agent must be capable of:

1. Assessing the technical research and development activities occurring at the National level.

2. Maintaining current awareness of the research and development literature pertinent to education.

3. Utilizing this awareness in assessing the critical educational problems and arriving at solutions to user needs.

4. Interacting with other resource agent team members in developing alternative approaches to resolving user needs.

5. Adapting as well as developing in order to arrive at solutions to user needs.

6. Assessing the consequences to the users of his action.

Attitudes and Values

The Educational Resource Agent must have

1. A belief in the basic creativity of human beings.

2. An open mind to the new and different.

3. Internal as well as external pressure to break from the tried and traditional.

Responsibilities of Intermediate Diffusion

Knowledge and Skills

The Educational Resource Agent must be capable of:

1. Serving as a linker or channel through which other resource agent might maintain awareness of all the knowledge available to the resource agent team.

2. Conducting awareness programs to maintain two-way linkage between knowledge producers and knowledge users.

3. Understanding and applying what is known of the processes by which communication occurs.

4. Appreciating the extensive literature concerning the diffusion process, especially that existing in fields other than education.

5. Assisting other resource agents in the strategies of diffusing their knowledge to the users.

6. Applying what is known about the teaching-learning processes, including the wide variety of instructional approaches, to the improvement of education.

Attitudes and Values

The Educational Resource Agent must have:

1. A belief in individual differences resulting in application of many approaches to presenting information in order that all concerned might be effectively reached.

2. The view that communication is a two-way process; that to "listen" is an important as to "talk."

Responsibilities of Local Problem Solving

Knowledge and Skills

The Educational Resource Agent must be capable of:

1. Diagnosing the LEA user system and all this connotes.
2. Training the LEA staff in the basic procedures for preparing a self-diagnosis inventory.
3. Assisting LEA users to undertake a self-diagnosis inventory.
4. Sensing openness on the part of the client system to input from external sources.
5. Assisting users to cope with the consequences of change by maintaining self-awareness and openness to further change.
6. Understanding of the necessity of and place for various resources within a diagnostic inventory.

Attitudes and Values

The Educational Resource Agent must have:

1. Acceptance to the strengths and weaknesses of group interaction.
2. An openness to change.
3. A tendency to accept rather than reject until the evidence justifies a negative decision.

Recruitment, Selection and Induction Procedures

Recruitment, selection and induction procedures for this program will be based on a two-dimensional model at each level of training, i.e., local, intermediate, and state. Our first dimension is identification of the trainees, while the second will be specification of the institutions which will sponsor, by employment, the trainees during the two years intervening between the three summers of training required under this training design.

Institutional Selection

Consideration will be first given to the institutional dimension since it suggests some limitations on the total recruitment, selection, and induction process. A major premise of this training program is that a "critical mass" of trained personnel working together in a formal setting will be a more effective demonstration of this training design than the same number of highly trained personnel working in isolated or singular settings.

Premises postulated in the previous paragraph result in two pertinent conclusions. First, a major failing of most short term programs designed to train personnel to fill new roles is that trainees frequently disperse from the training site or from a common employment locale too soon after the training is concluded. Any type of training, whether short- or long-term in duration, must overcome years of previous training and in-school and on-the-job conditioning. Second, training must mitigate against tendency for the trainees to gravitate toward more

traditional roles when they become isolated from the social context of their occupational settings by the sheer newness of their roles. This may be especially severe in the case of linkers between knowledge builders and knowledge users; the linkers have two more traditional roles toward which to gravitate.

Such problems suggest what has often been shown by research and practice; that to truly educate people for new and changing roles, covering all aspects of the cognitive, affective, and psychomotor domains, requires long-term experiences to overcome previous knowledge, attitudes, and skills. That the role of a resource agent is new and changing, few would challenge.

This training design includes two features aimed at overcoming typical limitations of training programs. First, while the academic and specialized internship experiences are short term in nature, they are built around a long-term, on the job, experience which has the potential to overcome dispersal and role failure. As a second feature, the trainees will be employed in institutions which have agreed to furnish time, resources, and opportunities for each trainee to interact in a team approach with the other trainees and training design staff in attacking the particular educational problems of common critical concern. This is also a most important consideration for preventing role failure and on-the-job insecurity.

In order to establish a team setting involving local, intermediate, and state institutions which will have the potential to overcome role failure, it will be necessary to limit the operational demonstration phase of this training program to

institutions in selected states in the vicinity of the academic training sites. (Another reason for limiting selection of institutions is the cost factor; the limited travel monies will go further if the institutions involved in the training program are clustered in selected geographic settings.). The first step in this selection process will be to identify the State Education Agencies (SEAs) in the vicinity of the three academic training sites which will participate in this training program. The SEA personnel will be involved in the identification of which intermediate and local agencies will be selected next. Local educational agencies (LEAs) will be first interviewed and, based on the interview data obtained, selected agencies will be invited to participate. Local educational agencies serving the rural/culturally limited/minority groups represented by each academic site will be sought first. When necessary, in order to obtain sufficient on-the-job internship sites, other rural LEAs serving culturally limited white populations, yet as close as possible to the minority population settings, will be acceptable. Where possible, the intermediate educational agencies (IEA) selected will have program responsibilities within the region encompassing the selected LEAs.

The primary approach to institutional selection will be the interview after the nomination. Personal interviews will be conducted with the chief administrators of the LEAs and SEAs which might participate in this program. These interviews will provide the chief administrators an opportunity to obtain information about this program. At the same time, the training program staffs

conducting the interview will review, among kindred topics, (i) what is this training program design, (ii) who will be trained, (iii) what can trainees do with this training, and (iv) what are the roles of the agencies serving as on-the-job internship sites? The latter question will cover a commitment on the part of each agency to provide the trainee with the following: released time during the year to participate in workshops, at least part of the trainees' job assignments related to the linking roles for which they are being trained, authority to interact with the other trainees at the same or different levels, etc.

Trainee Recruitment, Selection, and Induction Procedures

As is apparent from the preceding description of institutional selection, the trainee selection process has some built-in limitations. In many cases, especially at the state and intermediate levels, the choice of trainees identified to participate in training for these new roles will be limited to persons already on the job.

This situation has several advantages, especially at the state and intermediate levels. Such trainees will be familiar with the clientele system where they will work. Assuming that the trainees are not viewed negatively by the clientele, the trainees may be of early assistance in the educational improvement process within their states. Also, trainees will hopefully be accepted by the other personnel of their employing agencies; thus they will not be viewed with the dual suspicion normally accorded a new employee also filling a new role.

The disadvantages of this situation must also be considered. A primary shortcoming is the limitation this situation places on the pool of candidates from which trainees can be recruited, selected, and involved. However, since this will be a model demonstration of the potential of the training design, the numerically limited pool of candidates can be seen to be an asset, not the problem which on first glance it might appear to be. If this training design can take the full range of educational talent found in these three isolated rural settings and educate them to serve as useful teams for improving education, then the efficacy of the design will have been demonstrated.

While the preceding paragraphs identify some necessary limitations on the selection process in order to demonstrate this training design in the most effective manner, the trainees selected will be broadly representative of their states. And, because the three states are broadly representative of three important human geographic regions of the nation, the South, Southwest, and Upper Midwest, it is felt that recruitment limitations are justified. However, for trainees newly employed by the sponsoring institution, the criteria for selecting trainees identified below will be applied in advance to applicants for the vacancy. Possible candidates for these positions will be identified for the sponsoring institution by national announcements of this program via professional newsletters, convention attendance, journals, brochures, and word-of-mouth. Final selection of those tapped to fill the vacancies will be a joint effort on the part of the sponsoring institution and the training design staff.

Criteria which will be utilized in the selection of trainees and the level at which each of the criteria will be most applicable includes the following:

	Most Applicable		
	SEA	IEA	LEA
1. At least twenty-five percent of the trainees will represent each of the following groups; minority groups served by this program, whites raised in a culturally limited rural setting and whites raised in a culturally limited urban setting. This enables evaluation of the effectiveness of each group.	x	x	x
2. Potential candidates must possess a minimum of a bachelors degree.	x	x	x
3. Candidates must possess two years of educational experience or its equivalent.	x	x	x
4. Candidates must be in the formative years of their careers.		x	x
5. Candidates should present varied academic backgrounds in order to complement each other.	x	x	
6. Candidates should have shown academic strengths in subjects concerned with developing technologics and other improvements in education.	x		
7. Candidates should be proven leaders, i.e., held educational association office, recommended as good administrator, etc.	x	x	x
8. Candidates must have proven ability to work with people, not simply to lead them.			x
9. Language competency in case of Spanish or Indian user audience.			x

This list of criteria will be applied to each candidate. Data upon which to base the decision-making process will be obtained from the following sources:

1. Candidate's credentials available through a placement agency or three testimonial letters.

2. Application forms.

3. Correspondence or conversation with persons knowledgeable concerning the candidate's recent performance including his present and/or potential employer.

4. A diagnostic battery of instruments designed to assess the candidate's strengths and weaknesses in the cognitive and, especially, the affective domains. (While this battery is initially intended to serve as a screening device, it will later serve two additional purposes. First, it will be useful in identifying the individual needs of the students which the program must meet, and second, it will provide useful baseline data for evaluative purposes.)

5. Finally, for those who successfully complete the first four screening devices there will be a personal interview with one or more members of the project staff. The staff will attempt, in a structured manner, to determine the candidate's ability to project himself, interact with people, sensitivity to needs of others, etc.

Recruitment and selection process will take place between February and April in order that the first training activity, a short overview of the program, might take place in late April or early May, at least one month before the opening date for the first summer program.

2. The Theoretical Structure or Logical Framework for the Various Training Programs

Whether this training design is viewed as consisting of one program preparing personnel to fill several different roles, or as several programs, each having a different speciality, to prepare these same personnel, the design is based on preparing specialists to serve as knowledge linkers or resource agents at the state, intermediate, and local levels. (It has been proposed that non- or semi-professional assistance will probably be required to further the goals of this design program; training for such personnel will be devised after conducting need assessment studies and further developmental activities during the first operational year.)

The team approach concept is seen not to be new to educational knowledge linking. As early as 1967 Research for Better Schools was preparing "'research user teams' to assist school administrators to manage a program of planned change by systematically gathering and interpreting new research ideas and findings that have been or should be tested through field study."(1) Another interesting team approach was suggested by Laughary who saw a team composed of content research specialists, media specialists, systems specialists, and engineers serving in a supportive capacity to practitioners.(1) This approach overlaps at several points with the resource agent training design proposal. For example, the content researcher who would take responsibility for identifying information relevant to a particular problem and the systems specialist who would combine the various available

resources into a solution and demonstrate it to the satisfaction of the practitioner could be any member of the resource agent team at a particular point in time.

A number of emerging new roles identified in the Clark and Hopkins' Report on Educational Research, Development and Diffusion Manpower, 1964-1974, closely resemble the local, intermediate and state level personnel proposed to prepare the resource agent teams under this training design. For example, the local level personnel under this design resemble the Northwest Regional Educational Laboratories' "'carrier-linkers'" who would "move ideas and research findings into teacher behaviors", the "trainer change agent" of Jung who would train practitioners, demonstrate skills, etc., and the "curriculum change agent" of Lippitt who would inform practitioners of curriculum resources, coordinate adaptation, train, service, and nurture the new programs.(1)

At the intermediate level, Barton and Tiller suggested the need in regional educational service centers for "local innovation stimulators" who "would develop and demonstrate innovations unique to a particular community" and the "materials specialist" operating from a regional instructional materials center who would include, among more service functions, that of development of new curriculum, materials, and techniques.(1)

Finally, at the state level will be personnel who could serve as the general manager of the diffusion process. While not exactly what Clark and Hopkins appear to have in mind, the "change manager" charged with stimulation, coordination, and control over the diffusion process might serve as a good example.(1)

Ronald Havelock, in Planning for Innovation Through Dissemination and Utilization of Knowledge, also identified emerging new roles resembling members of the resource agent teams. The reader interested in Havelock's topology and examples which apply to education is referred to Part II Section B, especially Figure B.1, Page

What are the manpower needs for resource agent personnel prepared to work at the state, intermediate, and local levels? Clark and Hopkins, in their manpower study completed in 1969, reached the following two conclusions of importance to this training design: "an approximate tripling of demand for R, D, and D program personnel in state departments of education..." and "growth in demand for development and diffusion personnel (primarily) on the order of four times the 1964 population would occur in schools and school systems...." This would result in 945 to 1107 state level personnel and 1207 to 3588 intermediate and local level personnel required by 1974 depending upon whether one accepts the least or the most optimistic projections of Clark and Hopkins.

These projections indicate that a major increase in the number of training programs and in the output of "existing" programs will be required to produce the necessary competent and highly trained personnel. Considering "existing" training programs the summary data concerning Educational Research Training Programs indicates that only 6.7% of the trainees are in programs designed to meet "Newer D and D roles." And of

these trainees only 4, or 0.6%, are in a program, information storage retrieval, which obviously is concerned with training knowledge linking personnel.(1)

Training programs for knowledge linking personnel are very limited. There are a few training efforts in communications and rural sociology. But only two at most of these programs are concerned with training educational knowledge linking personnel. There are a few beginning efforts at in-service workshops for role modification, i.e., Havelock's June 1970 Interim Report to the USOE, Koelling's series of workshops for staff of the three state utilization programs, and Hilderbrand's Four State Project SPREAD. But these programs have the potential limitation that a short-term training experience will not prove sufficient. Also the question must be raised are these in-service programs actually depleting the supply of trained personnel in other critically needed specialities?

This training design has the potential to overcome both of the limitations to in-service training cited in the preceding paragraph. This is a training program that other institutions could replicate. The program is equally generalizable to rural or urban needs and could become a graduate minor within the training programs for a number of educational specialities.

Turning to the theoretical structure undergirding this training design, attention must initially be directed to two related questions: Should personnel be trained to link existing knowledge into practice?, and, Should personnel be process

or content oriented? It is the contention of the training design staff that to train for linking existing knowledge into practice would be a waste of time, effort, and precious resources. It would also be contrary to some present day tenets of education. For sake of illustration, it would be much like the vocational education controversy concerning educating for a specific job or educating in the basic skills appropriate to a vocational area. Educating in basic skills seems to be the predominate answer to this controversy and the growing realization that a child of today will be required to undergo several occupational changes in the work world of tomorrow appears to lend weight to this decision.

That a more critical situation exists for the knowledge linkers or resource agent is apparent in the form of the well-known "knowledge explosion." By whatever criteria knowledge is measured, it is apparent that knowledge is rapidly increasing. Thus the resource agent is faced today with the fact that he does not have to wait for tomorrow for specific knowledge to be out-of-date. He must face this fact daily; witness the work Regional Laboratories, R and D Centers, ERIC, and other knowledge producers, gatherers, and interpreters are doing. If resource agents were to be educated in specific knowledge it is not certain they would leave the preparation program in time to usefully link content with practice.

The logical answer to the dilemma of the resource agent, and to the second question related in the introduction of this section, is that the resource agent should be process,

not content, oriented. Two contingent questions are posed: (1) Can a solely process oriented person effect meaningful educational improvement, and if yes, (2) What processes should be requisite?

There are at least two answers to the first question. First, no educator can be solely process oriented and the majority of trainees in this program will be educators. Each trainee will possess at the minimum, a bachelor's degree, and at least two years educational or kindred experience. The bachelor's degree in education is assurance that the trainee has had content in one or more teaching fields as well as training concerning the instructional and teaching-learning processes. The educational experience is assurance that the trainee has some awareness of educational problems and needs; certainly most important content for a knowledge linker.

A second answer to the question is an awareness workshop concerning current and potential developments in education which have some potential for affecting improved educational practices. This workshop will serve as a concluding experience in this training design where it can serve as content for application of the processes learned by the trainees. An effective regional laboratory based approach to this content will be provided by the Northwest Regional Educational Laboratory.

Returning to the question, "Can a solely process-oriented person effect meaningful education improvement?", it can be seen that this question does not require an answer. There can

be no such product as a "solely process oriented person" as a result of this program. The trainees already possess content before embarking on this training design. But the design project is primarily process oriented.

The second question posed earlier must now be answered: "What processes should be possessed" by the trainees after completing this training design? While many processes are included in the content of this training design; some are limited while others are extensive; three broad processes have been identified as the base thrusts of this design. These processes are (i) product development, (ii) diffusion, and (iii) problem solving. The definitions of these terms will be found in Section A of Part II while a description of these processes in the broader educational context and a rationale for selecting them will be found in Section B of Part II.

In summarizing the rationale, let us review the three schools of social change and the related three models for dissemination-utilization. The names applied by Havelock to both the schools and the models are: social interaction; research, development, and diffusion; and problem solver. It has been shown in Section B of Part II that each school has some distinct strengths and some limitations. The strengths of each school have been identified with the three processes serving as the focuses of this training design:

1. Diffusion (Social Interaction Perspective)
2. Development (Research, Development, and Diffusion Perspective)

3. Problem Solving (Problem Solver Perspective)

Thus, it should be noted, content covered for each of the three processes might be other than that considered under the dissemination-utilization model of each process. Rather, the content will be representative of the sum total of cognitive information within the respective school of social change. (In other words, the content provided for diffusion will encompass more than might normally be considered when educating someone in simply the diffusion process.)

Placing three master processes within the master linking model as presented in Figure A.7, page 106, the following can be said concerning each:

1. Diffusion is concerned with the concepts and skills required to link knowledge with practice. It is not so concerned with either knowledge building or utilization. Thus, it is central to the linking process shown in Figure A. 7, page 106; the responsibility of the Intermediate Agency Trainee. The University of North Dakota will undertake this aspect of the training design.
2. Development is closely attuned to knowledge building. A trainee having knowledge and skills in this process will be capable, not only of recognizing impor ..t knowledge, but of modifying it to meet local needs. Preparation of the trainees so that they are aware of and can take advantage of the serendipity factor is anticipated. The trainees, in the linking model,

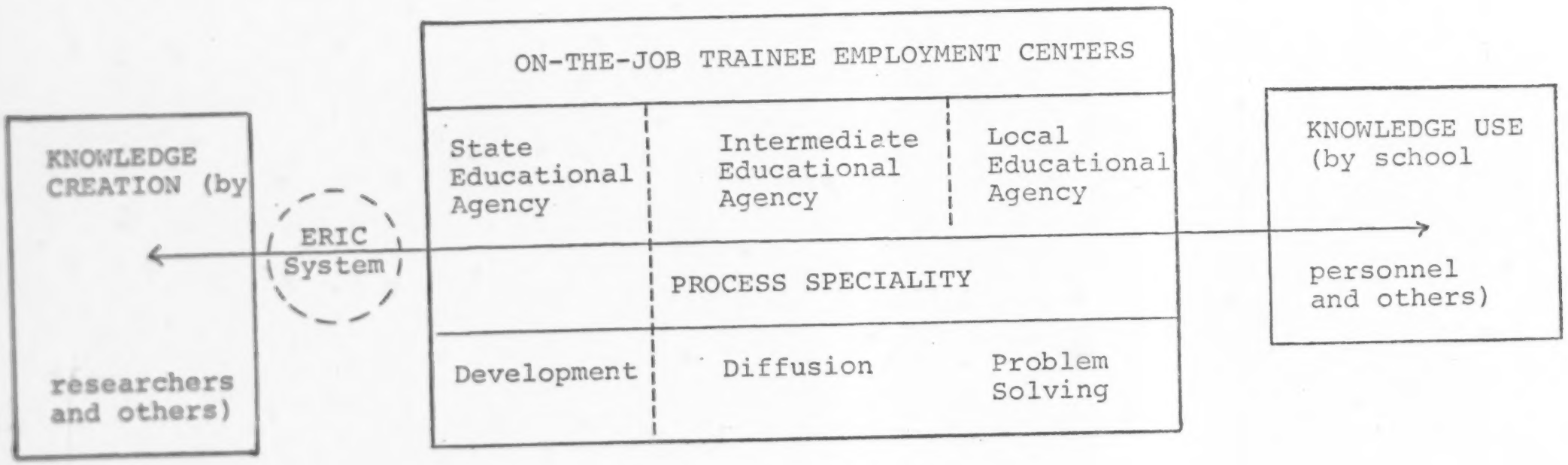
Figure A.7, Page 106, responsible for linking most closely to knowledge builders, are personnel placed in the state education agencies. New Mexico State University has the responsibility for offering training in this aspect of the training design.

3. Problem solving has as its prime purpose the establishment of effective human relationships with the clients to be served and the provision of assistance to these clients in resolving felt needs or problems. Thus, this process is individual practitioner oriented. The trainee at the local educational level, responsible for linking knowledge with practice, must have skills in this process. Tuskegee Institute will utilize the expertise of its staff to provide training in the process of problem solving.

In summary, the preceding identification of a process with a trainee employment level does not mean that personnel will be limited to those skills. Each participant's competency will be checked against performance criteria describing the processes. However, the specialty training in a selected process will further prepare the personnel at each level to serve as team leaders when selected skills are the central focus of the change process. The particular contribution of each campus program component finds ultimate meaning in the training of a broadly equipped educational resource agent.

Figure A.7

Paradigm of Knowledge Utilization Process in Education
Including Specification of Change Agencies and Educational Resource Agents



3. Content, Methods, Length, Structure, and Integrative Mechanisms of the Various Training Programs

This section contains the real heart of this training design. A solid rationale, behaviorally stated objectives, an outstanding array of institutional resources, a solid administrative framework, and meeting a critical personnel shortage are not enough unless the structure and content of the program are such as to encourage an educational program to train the needed personnel. This section will review the structure and content of this training design under the following headings: a. Introduction, containing some opening remarks, b. Length, Structure and Integrative Mechanisms, and c. Content and Methods.

a. Introduction

This training design is built around an integrated series of roles linking the local, intermediate and state levels. (Review the previous subsection if more detail is desired.) The reader should refer once again to Figure A.1, Page 74, which indicates this role linkage, internally, between the three levels, and externally, between knowledge builders and knowledge users. It was indicated in the previous subsection that to link knowledge gained from educational research, development, and evaluation to the educational practitioner will require emphasis on several processes; specifically, the processes are not covered in current educational training programs. The personnel filling the role at each level will be trained in all three processes and will further specialize in problem solving at the local level,

diffusion at the intermediate level, and development at the state level. The rationale for these specializations can be found in the previous subsection.

Before considering the various administrative and instructional details necessary in offering this program and before detailing the course content for each process, it should be noted that other knowledge linking roles are also seen as requiring attention. For instance, more knowledgeable and helpful linkers are required at the knowledge builder levels, i.e., regional laboratories, research and development centers, universities, etc., in order for new developments in education to reach the practitioner without the traditional time lag. Some other occupational titles given in the literature for new professional roles in knowledge linking are "index abstractor", "information storage and retrieval specialist," "curriculum change agent," "local innovation stimulator," and "change manager." Refer to the rationale, Section B of Part II, for a more detailed consideration of these and other potential new roles.

Another set of important roles are paraprofessional in nature. These are the librarian aides, microfilm equipment specialists, computer technicians, and similar types of assistants who can undertake the many semi-clerical, semi-professional tasks in the area of information science, a major dimension of the total change process. Consideration will be given during the operational test phase to further

identifying these other types of roles, training required for personnel to fill these roles, and similar questions. Particular attention will be given to those types of paraprofessionals which are proven to be essential in furthering the team approach. It is anticipated that some resources will immediately be directed toward planning for training these types of personnel and that actual training would occur the second and third project years.

b. Length, Structure, and Integrative Mechanisms

Entering into a discussion of length, structure, and integrative mechanisms, the logical point of departure is the time schedule proposed for this program. (Refer to Figure A.8, Page for a complete layout of the time schedule.) The time schedule will be considered in terms of the following six phases:

1. Pre-session -- February-May, 1971
2. First Summer -- June-August, 1971
3. First on-the-job year -- September, 1971 - May, 1972
4. Second Summer -- June-August, 1972
5. Second on-the-job year -- September, 1972 - May, 1973
6. Third Summer -- June-August, 1973

Figure A.8

Time Schedule

First Year	March 14-20	Orientation workshop for staff
	April-May	Short-term orientation course for trainees
February 1, 1971 to January 31, 1972	June 7-18	Workshop on basic content in one of three process areas; the area of specialization for the trainee.
	June 19-July 25	Field internship
	July 26-30	Follow-up of workshop
	January 10-21	Workshop to further follow-up and extend upon the basic content in the speciality process area.
Second Year	June 5-16	Workshop on basic content in a second of the process areas.
February 1, 1972 to January 31, 1973	June 17-July 23	Field internship
	July 24-28	Follow-up of workshop
	January 8-19	Workshop on awareness of the existing state-of-the-art in development, i.e., what products exist applicable to rural education?
Third Year	June 4-15	Workshop on basic content in the third of the process areas.
February 1, 1973 to August 31, 1973	June 16-July 22	Field internship
	July 23-27	Follow-up of workshop

1) The pre-session covers two activities. First, it is primarily intended to afford the academic training personnel an opportunity to finalize course content and instructional procedures, and the administrative coordination personnel an opportunity to finalize the summer and on-the-job internship experiences. The orientation workshop for staff will serve as one major activity within the pre-session period. But the pre-session will also include the first academic content of this training design; a short-term orientation course in late spring for those selected as participants. The purpose of this course is threefold; first, it is intended to provide an overview of the total training experience including all three processes, i.e., problem solving, diffusion and development; second, it will afford the training staff an opportunity to involve the trainees in selected readings before the first summer training session; and third, it provides the team members at the local, intermediate, and state levels their only opportunity to meet before entering the first on-the-job year. The latter point will be accomplished by offering this introductory orientation course at each academic training site utilizing local training personnel for the instructional staff. Released time will be secured for each trainee from their 1970-71 employers in order that they might participate in the course with the other trainees who will work in the vicinity of the same academic training site.

2) The first summer and the two following summers will all follow the same structural arrangement. The first two weeks of the eight-week period will find the trainees at an academic training site for a workshop covering one of the three processes; problem solving, diffusion, or development. This will be followed by a four-week internship and concluded by a one-week follow-up of the workshop and internship; once again at the academic training sites. Each of the three academic training sites will focus on one of the processes as its speciality area; Tuskegee Institute -- problem solving, University of North Dakota -- diffusion, and New Mexico State University -- development.

During the first summer, each trainee will attend the academic training institution offering the member process. The speciality process for each trainee will be determined by the level at which the trainee will be employed during the on-the-job years. The local level trainees will participate in problem solving offered at Tuskegee Institute; the intermediate level trainees in diffusion at the University of North Dakota; and the state level trainees in development at New Mexico State University. The rotational procedure will afford trainees having common occupational roles an opportunity to explore the diverse problems and interests faced under different geographic conditions and cultural settings.

A comprehensive coverage of each process including the relationship of the process to the other two processes will be sought during the workshop period. The trainees will devote

full time to this workshop during the three weeks at the academic training site. Full-time is defined as a minimum of 7½ hours of class reading, written exercises, simulation and other experiences per day. This three-week workshop experience could be roughly equated to a three semester credit college course, justifying application of the term, course, throughout this section.

The trainees will then be placed in an internship setting where the educational significance of the setting is secondary to the cultural significance. The intent, is to overcome the lack of empathy and "homophily" found to be serious contributors to the failure of the linkage process, especially when working with populations differing from that of the linkage personnel such as rural/culturally limited/minorities. The internship experiences will, for the most part, consist of working with summer educational programs, e.g., as Head Start, BRAVO, or Upward Bound, in the vicinity of the academic training sites. The trainees will be encouraged to apply in these settings, the knowledge gained from the workshop. It is the contention that if a trainee is going to fail at any skill he has learned, this should happen in a temporary setting, rather than where he must remain and work for two years. The intership experiences will be further limited to activities involving the rural/culturally limited/minority focus group of each academic institution; i.e., for Tuskegee Institute the rural Black, for New Mexico State University the rural Mexican-American, and for the University of North Dakota the reservation Indian. As

a means of further exposing the trainees to cultural differences, living accommodations will be arranged for the trainees in the homes of members of these rural/culturally limited/minorities.

The final week's workshop provides the opportunity to review the cultural experiences. Also, it will be possible to follow up on assigned readings and other recommendations resulting from the initial workshop.

3) During each of the two on-the-job years, the trainees will be employed in selected local, intermediate, or state settings. The settings for a third of the trainees at each level will be close, in geographic location, to one of the academic training sites. The trainees in each geographic location will be organized in a team approach whereby they will perform the linking roles described in the project model. Thus, the on-the-job internship will provide the trainees with the practical experiences necessary to facilitate their development as linkers or resource agents. This emphasis on the team approach necessitates the two-dimensional selection procedures described in subsection 2, where in order to facilitate the team approach, settings must be selected for on-the-job internships as well as the selection of trainees.

In order to facilitate these team experiences, each on-the-job internship site will be required to utilize the trainee at least part-time in a role of the nature described in the occupational descriptions. The part-time possibility affords the internship site an opportunity to pilot test the resource agent role in order to assess its benefits; yet if offers the trainees

first-hand, realistic, and practical experiences. The possibility of the internship site continuing to employ the trainee and increasing his time commitment to the new role upon the trainee's completion of this program is enhanced by the opportunity for trial. A contact person, usually the chief administrator of the internship site, will be involved as the coordinator of the internship. The training staff will serve in a supervisory and resource position during the academic year encouraging and assisting the trainees to undertake significant action programs of educational improvement. The training staff will also perform research and development functions. Section B of Part III will further define the significant action programs, and research and development activities which are proposed. Every attempt will be made to provide a full-range of resources to facilitate the team efforts. The advantages of three teams are to demonstrate the variety of approaches teams might use, problems they might attempt to resolve, the variety of human and physical situations they might encounter, etc.; in other words, to prove that this training design will generalize to other settings working with different minority populations.

Approximately the middle of the year, probably in January, each trainee will once again be brought to the academic training site offering his/her process specialty. A two-week workshop will ensue. The content of this workshop will be two-fold. First, it will follow-up on the trainee's on-the-job experience working in his/her new role. Attempts will be made to resolve role conflicts between these emergent and more traditional roles. Second,

a more advanced treatment of each specialty will be offered, building upon the first summer program. Approximately two weeks will be required for this training with the trainees released from their employment responsibilities to participate.

It is anticipated that by the conclusion of the first project period, January 31, 1972, trainees should have demonstrated acceptable competency on the first two performance objectives, 1) evidence clarity in communications via human relations, and 2) identify the specific educational needs of a particular rural/culturally limited/minority in an assigned rural setting. At the conclusion of the second funding period, June 30, 1972, performance objective number three, identify and describe the decision-making set of an assigned rural community, will have been satisfactorily demonstrated.

4) The second summer will follow the same structure as the first. Each academic training site will rotationally offer the same basic specialty course of the same duration with similar internship and follow-up procedures. One exception is that the trainees will enroll in different basic speciality courses the second summer. For example, the local level trainees who attended Tuskegee for problem solving the first summer will attend either New Mexico State University for development or the University of North Dakota for diffusion the second summer. The trainees will also intermix as to occupational roles, i.e., some state and regional trainees will attend the problem solving workshop, some regional and local trainees will attend the development

workshop, etc. Each trainee will also participate in an internship experience with a different cultural orientation, i.e., a different rural/culturally limited/minority group. The purpose of this experience is 1) to continue building empathy and 2) to provide more knowledgeable personnel in the processes of planned change.

5) The second on-the-job year will follow the same format as the first. Again, the only deviation will be the workshop offered during the year. The topic of this workshop will be awareness of what has been developed in the way of new educational programs, products, techniques, etc. A short-term session on this subject will be offered the state level trainees by the Northwest Regional Educational Laboratory, Portland, Oregon. Content will cover process as well as product of the Laboratory's development efforts. State level personnel, with the assistance of laboratory personnel, will, in turn, offer in-service training on awareness of new developments in education to the intermediate and local level trainees in their respective states. This approach is in keeping with the state level personnel's function to keep the other linkers informed of new developments.

At the conclusion of the third funding period, June 30, 1973, trainees should have demonstrated to the satisfaction of all interested parties the next three performance objectives; 4) describe, apply and synthesize elements in an assigned rural school problem-issue situation, 5) utilize step #3 data above, identify and retailor a tangible curricular product (knowledge package), and 6) apply, evaluate, modify, and re-apply product, #4 above, in an on-site rural school.

6) The final summer will follow a procedure identifical to that used the second summer. Each trainee will enroll in the third specialty course this summer. At the conclusion of this third summer program, the trainees will have completed the academic and internship experiences it is felt should provide them with the competencies to serve as knowledge linkers.

At the conclusion of the fourth funding period, June 30, 1974, the seventh performance objective, diffuse throughout an on-site assigned rural school system, at the appropriate grade level, the curricular product described in #4 and #5 above will have been satisfactorily demonstrated.

B. TRAINING PROGRAM COMPONENTS

This section contains (1) the range of activities in the context of the training program, and (2) additional outline of the scope of work of each of the participating institutions, organizations, and agencies in terms of their involvement in the training program. It should be explained that while three institutions (Tuskegee Institute, University of North Dakota, and New Mexico State University) and one organization (NFIRE) are specifically listed in this section as being involved in the seven program areas listed, four other organizations are also participants in the training program. These four additional organizations are (1) the Northwest Regional Education Laboratory (NREL); (2) the Southwestern Cooperative Educational Laboratory (SCEL); (3) the Southeastern Education Laboratory (SEL); and (4) the Appalachia Educational Laboratory. Their involvement and the financial support related thereto will be listed under NFIRE's program description and budget allocation.

PART III

1. CONSORTIUM MANAGEMENT

1. Consortium Coordination

a. Fiscal and Program Governance

(1) Governance

The project will operate under policies established by a Governing Board, these policies being in keeping with the proposal content and directions. The concerned institutions, organizations, and agencies will have appropriate representation on this board.

Tuskegee Institute is the prime contractor for the program. As such, Tuskegee Institute will serve as the fiscal depository for the project. Monies shall come to Tuskegee Institute in a collective sum for subsequent distribution to the sub-contracting component programs -- Tuskegee Institute, New Mexico State University, University of North Dakota, National Federation for the Improvement of Rural Education, and The Northwest Regional Educational Laboratory.

A project manager will direct the program. His functions will include the coordinating of activities of the constituent institutions, organizations, and agencies.

A fiscal director will administer the financial operation of the project.

(2) Cost Accounting, Monitoring, and Reporting

Overall project accounting will be centered at Tuskegee Institute. Business offices will be used as fiscal depositories for funds for the contracting institutions' component programs.

Each sub-contracting component will report on a quarterly basis to Tuskegee, allowing sufficient time to meet specified deadlines. The prime contractor will centralize, compile, and issue all program content and fiscal reports for distribution to the United States Office of Education. Copies will be routinely provided to each sub-contracting institutions' director.

Funds shall be allowed to permit monitoring visitations to the sub-contracting component institutions. A primary intent of such visitations shall be to insure compliance as is described in the proposal. Such monitoring duties shall not be interpreted as voice within individual institution, professional, course content, or intern assignment procedures. Monitor personnel shall deliver an oral and tentative report upon the close of each visitation. Written copies of a final report shall be filed with the prime contractor and the individual institution concerned. Content of such visitation reports shall be given the executive committee at routine committee meetings.

b. Evaluation

Performance criteria as stated elsewhere in this proposal will serve as design and procedural bases for the 1st, 2nd, and 3rd years of the project, including "wrap-up". The evaluation procedure herein identified is not meant to be final, but rather describes the possibilities of comprehensive as well as "tight" evaluation design. It is expected that external evaluation specialists will be employed. Such individuals, in turn, will utilize data as shall have been gathered. It is also assumed

that the U. S. Office of Education will perform evaluative activities utilizing these criteria. The following possibilities are given to demonstrate the potential of the performance concept:

(a) Trainees completing a given process during a stated year shall have their singular and collective performance checked against pessimistic, optimistic, or most likely estimates. Movement from pessimistic toward optimistic estimates can be expected.

(b) An institutional assessment can be made to check the improvement of "component delivery" year by year, e.g., the "diffusion component" at the University of North Dakota offers a situation whereby data will be collected year by year with change rate noted. Application of change rate process statistics currently used in the bio-medical sciences might be used. Additional questions covering ethnic, sex, or regional facets can be asked of the data accumulation.

(c) Summative "box score" for any of the seven, select combinatorial, or total might be computed year by year or project total.

Finite decisions concerning program evaluation will be made by the Governing Board. The Governing Board will be charged further with the responsibility of assessing the content and procedures of this training design. Possible immediate or later improvements in the linkage of this training design to the other stages in the research, development, diffusion, and adoption paradigm of Clark and Guba will be sought. Mutual interaction with and linkage to training designs focusing on other stages of the paradigm will be considered in light of the potential benefits to trainees and their future employment in a more highly interactive society.

PART III

2. NATIONAL FEDERATION FOR THE IMPROVEMENT OF RURAL EDUCATION

2. National Federation for the Improvement of Rural Education

a. Roles

NFIRE has five major roles to play as a contracting institution in this design.

1. NFIRE will serve as disseminator of information concerning this training design. This will involve an extended effort covering the entire training design period during which NFIRE will display this design nationally. Two benefits will be derived from this role, (1) feedback concerning modification and improvements which might affect generalizability, and (2) the involvement of other institutions leading to potential spread of this program after determination of its success.
2. NFIRE will serve as a resource to the trainee teams during their on-the-job experience. For example, should a trainee or team wish to know where contract instruction has taken place and whom to contact, ERIC/CRESS will identify the location and written materials while NFIRE will identify the human resources and make the appropriate contacts with these resources.
3. NFIRE will serve to extend the personnel searching of the content training institutions to the national level. For instance, when the design staff from the University of North Dakota seeks to identify instructional or

program development assistance, their awareness of available resources may be limited to a geographical locale. NFIRE will serve to extend this awareness national and even internationally.

4. NFIRE will assist in the coordination of the research, evaluation, and development activities which will parallel the training activities in order to ensure that meaningful benefits are gained from the time, effort, and resources expended. One means NFIRE has for achieving this goal is through sponsorship of small research, evaluation, and development activities through the utilization of its consultant resources.
5. NFIRE will coordinate the special workshop on recent trends in rural education which will be conducted at the Northwest Regional Educational Laboratory, Portland, Oregon. Following is a description of this workshop.

(a) Overview

While it was noted in the theoretical overview that the basic training in this design would be process oriented, content has not been totally overlooked. It was noted that the trainees all would have a content background as a result of their baccalaureate degree and experience. For example, employees of state and local educational agencies, especially, would usually be specialists, frequently in some sub-area of

curriculum. It was proposed that the short-term intensive course during the second academic year would be content oriented, being a consideration of recent trends in rural education.

What is meant by "recent trends"? Trend as used in this setting refers to the technical pattern of activity coming from the use of this term by the Research, Development, and Diffusion School of educational change. Trends in this context refers to products or innovations to which the linear sequence of activities described in the rationale has been applied. A resultant product is content for the agent to link to users through the diffusion and adoption stages of the educational change paradigm of Clark and Guba.

A comparison of the development and trends components, New Mexico State University and the Northwest Regional Educational Laboratory, will be given to map constraints upon the content covered by each.

New Mexico State University is primarily concerned with process. The skills and knowledge to be gained through the study of that process will include how to identify information concerning potential solutions to educational problems, how to evaluate and/or test these solutions for "best fit," how to modify, reinterpret, combine and/or adopt these solutions to fit the specific setting within which the trainee team will function.

The Northwest Regional Educational Laboratory is primarily concerned with content. What "innovations" have been considered and/or evolved which might serve as solutions to major problems

in rural education. The knowledge to be gained through the study of this content will include; a reassessment of the critical priority ranked problems in rural education as of the date this is offered, an identification and review of the major research and development efforts which hold promise for improvements in rural education, and the directions in research and development holding promise for the future.

(b) Content of the Short-Term Intensive Course

The content orientation of this training component can not be specified with the same definitiveness as was given for the other training components. These other components are process oriented. A process might be modified, new procedures or approaches added, etc.; but the basic core usually remains quite consistent over an extended period of time. A course covering on-going activities, however, must reflect the "snap-shot" of these activities at a designated point in time.

In place of specifying special content for this course, the procedures for developing this course will be detailed. The time sequence assumes that the Northwest Regional Educational Laboratory will initiate activities commencing July 1, 1972.

July 1 - July 31	Outline of the structure of the course, determination of potential resources to be contacted.
July 15 - August 1	Initiate contacts with the identified potential resources.

August 1 - Sept. 30	Identification in consultation with the Governing Board and selected outside resource people of the "most" critical needs or problems of education in rural America now, in the immediate future, and in the distant future.
Sept. 15 - Oct. 31	Assessment of the products, hardware or software, which (1) are available in a developed state, (2) appear to be trends for the future, and (3) applicable ro rural education.
Oct. 15 - Nov. 30	Organization of this content into the course structure, identification of presentors, scheduling, etc.
December 1-12	Offering of the course to the six state level trainees. Assistance to them in developing an inservice program for the remainder of the trainee team in their respective states.
December 15 - January 10	State level trainees will plan, organize, and schedule the in-service program for fellow team members.
January 10-15	State level trainees will offer in their respective states a course similar to that presented them by NWREL. Expert consultive and possible instructive assistance will be afforded by NWREL.

b. NFIRE Officers

JOHN ELIHUE CODWELL
(President, NFIRE)

Education	Degree	Year	Major
University of Michigan	M.A.	1938	Science
University of Michigan	Ph.D	1948	Administration

Recent Work Experience

Deputy Director, Education Improvement Project, Southern Association of Colleges and Schools, 1969-

Associate Director, Education Improvement Project, 1964-1969

Principal, Jack Yates High School, Houston, Texas, 1958-64

Principal, Phillis Wheatley Senior High School, Houston, Texas, 1950-58

Vice Principal, Phillis Wheatley Senior High School, Houston, Texas, 1949-50

Selected Publications and Honors

A Demonstration of the Effect of An Adaptation of Microteaching on the Instructional Behavior of Rural School Teachers.

Education Improvement Project — A Status Report of an Action Arm of the Southern Association of Colleges and Schools.

Pertinent Developments in Programs Designed Toward the Educational Improvement of Disadvantaged Pupils.

Elected to membership on the Advisory Board of the National Committee on the Education of Migrant Children.

Only Negro member of a national committee carefully screened for selection by the Danforth Foundation to advise the foundation relative to how best to expand its program to include secondary education.

ROWAN STUTZ
(Immediate Past President, NFIRE)

Education	Degree	Year	Major
Brigham Young	M.S.	1951	School Administration
University of Utah and Colorado	Post-graduate work in Administration		

Recent Work Experience

Administrator, Division of Research and Innovation, Utah State Board of Education, 1968-

Coordinator, Western States Small Schools Project (Five States), Utah State Board of Education, 1965-68

Director, Western States Small Schools Project for Utah, Utah State Board of Education, 1962-65

Selected Publications

Opportunity Knocks for Utah Small Schools, Western States Small Schools Project.

Individualizing Instruction in Small Schools, Western States Small Schools Project.

National Treasurer, National Parent Teacher Association.

LEWIS TAMBLYN
(Chairman, Commission on International Education, NFIRE)

Education	Degree	Year	Major
University of Michigan	Ed.D.	1961	Educ. Psych. Child Development
University of Michigan	M.A.	1951	School Administration

Recent Work Experience

Executive Secretary, Rural Education Association, National Education Association, 1968-

Assistant Executive Secretary, Department of Rural Education, National Education Association, 1962-68

Principal Director of Special Education, Guidance and Testing, Huron Valley Schools, Milford, Michigan, 1955-62

Selected Publications

Selected Bibliography on Rural Education, National Education Association

Research Abstracts in Rural Education, ERIC-Clearinghouse on Rural Education and Small Schools

Education, Answer to Poverty, Member of Task Force for U. S. Office of Education.

CHARLES T. BITTERS
(Immediate Past Secretary, NFIRE)

Education	Degree	Year	Major
Hardin Simmons University	M.Ed.	1950	Administration

Recent Work Experience

Assistant Director, Region XV Education Service Center, San Angelo, Texas, 1968-

Director, Texas Small Schools Project, Texas Education Agency, 1958-68

Selected Publications and Honors

Story of Texas Small Schools Project, Texas Education Agency

Executive Secretary, Texas Small Schools Administration

Selected in 1967 by Texas School Business as Educator of the Month.

WALTER HARTENBERGER

Education	Degree	Year	Major
University of North Dakota	M.S.	1954	Administration
University of North Dakota	Specialist	1966	Administration

Recent Work Experience

Superintendent, Kenai, Alaska, 1970-

Northwest Regional Educational Laboratory, Portland, Oregon,
Staff Specialist, 1967-1970

Superintendent, District 5, Moccasin, Montana, 1965-67

Director, Title III Project, 1965-66

Selected Publications and Honors

Change — Process American Associatien of Secondary School
Principals

LAWRENCE HELDMAN
(Vice President, NFIRE)

Education	Degree	Year	Major
Columbia University	Ed.D.	1966	Administration
Columbia University	M.A.	1957	Administration

Recent Work Experience

Professor of Education and Executive Secretary, Catskill Area School Study Council, Incorporated, State University College, Oneonta, New York, 1968-

Director, Title III, Oneonta, New York, 1967-68

Principal, Ossining, New York, 1964-67

Selected Publications

Science and Children published by National Science Teachers Association.

Periodic reports and monographs on administrative, staff and negotiation problems of rural schools for Catskill Area School Study Council.

CHARLES HAGGERTY
(Chairman Commission on Field Testing, NFIRE)

Education	Degree	Year	Major
Eastern Oregon College University of Oregon	M.Ed. 45 hours post-graduate	1956	Administration

Recent Work Experience

Project Director, Oregon Migrant Education Service Center, Salem, Oregon, 1969-

Director, Oregon Small School Project, Oregon Board of Education, 1965-69

Director, Oregon Gifted and Advanced Placement Program, Oregon Board of Education, 1960-65

Selected Publications

Gifted Child in Oregon, Oregon Board of Education, 1963.

Oregon Small School Program, Oregon Board of Education, 1968.

EDWIN P. HILDERBRAND

Education	Degree	Year	Major
Colorado State College	M.S.	1957	Administration

Recent Work Experience

Project Director, Four State Diffusion Project SPREAD (State Programs Revitalizing Education and Diffusion), Colorado Department of Education, 1969-

Director, Western States Small Schools Project for Colorado, Colorado Department of Education, 1966-69

Superintendent of Schools, La Veta, Colorado, 1956-66

Selected Publications

Quality in the Small Schools, Colorado Department of Education

Contributed to Western States Small Schools Project Publications.

PART III

3. ORIENTATION WORKSHOP FOR KEY STAFF MEMBERS

3. Orientation Workshop for Key Staff Members
(Schedule of Events, March 14-20, 1971)

TUSKEGEE INSTITUTE
Tuskegee Institute, Alabama

Date(s)	Activity	Purpose	Personnel Required
Monday, March 15, 1971 (all day)	The Havelock Paradigm	Havelock Paradigm as the conceptual base of the program.	Dr. Ronald Havelock, Center for Research in Utilization of Scientific Knowledge, University of Michigan
Tuesday, March 16, 1971 (A.M.)	Performance objectives as a basis for program control, direction and evaluation.	To be able to understand the boundary conditions governing the knowledge broker concept.	Dr. Darrell S. Willey Educational Research Center New Mexico State Univ.
Tuesday, March 16, 1971 (P.M.)	Explanation and clarification of Northwest Regional Educational Laboratory's program development needs for rural education for the next five years.	To better define the pressing issues.	Dr. Ray Jongeward NWERL
Wednesday, March 17, 1971 (A.M.)	Explanation and clarification of the Tuskegee Problem-Solving facet, Tuskegee	To be able to show insight into the problem-solving process.	Dr. Lewis Jones Professor Dept. of Sociology

NOTE: Materials and syllabi materials are to be provided attendees

Wednesday, March 17, 1971 (P.M.)	Explanation and clarification of the University of North Dakota's Diffusion Process	To be able to demonstrate a mastery of the diffusion process	Dr. Harvey Jacobsen Associate Professor of Communications Univ. of North Dakota
Thursday, March 18, 1971 (A.M.)	A digest of management information systems applied to problem solving/development/ diffusion.	To effect efficient (diversified) management, and project control concerning program components	Dr. James B. Gunnell Assistant Professor, Development Faculty, The Ohio State Univ. (Member, Black Research Consortium)
Thursday, March 18,	Role of National Federation for the Improvement of Rural Education (NFIRE)	A source of consultant help and leadership in rural education. Serve as collective voice for rural education.	Dr. John Codwell President, NFIRE Atlanta, Georgia
Friday, March 19,	New Mexico State Univ. and EROC/CRESS's clarification of the development component	To better define the development process.	Dr. E. D. Edington Director, ERIC/CRESS
Friday, March 19, 1971 (P.M.)	Users, media and information processing.	To generate program instructional materials.	Dr. James Finn, Prof. Audio Visual Education UCLA
Saturday, March 20	Work session for instructional personnel from program components. Each Component staff to write performance criteria. (Each presenter will be asked to prepare/furnish extensive working notes to personnel)		

PART III

4. SHORT TERM ORIENTATION COURSE FOR TRAINEES

4. Short-term Orientation Course for Trainees

The program for the preparation of educational resource agents for disadvantaged rural schools enrolling a majority of Blacks, Chicanos, American Indians, and culturally limited whites is designed to capitalize upon the major strengths of five cooperating agencies. A unique training potential as posited by the aggregate of:

Agency	Contribution
1) Northwest Regional Educational Laboratory Portland, Oregon	Needs and trends in rural education for the next five years, an in-house seminar.
2) Tuskegee Institute, Alabama	(1) Project management, and (2) Problem solving: an inductive rural sociological-anthropological strategy.
3) New Mexico State Univ. and ERIC/CRESS	Development: entry skills from the cognitive domain.
4) University of N. Dakota	Diffusion: a communication science approach.
5) National Federation for the Improvement of Rural Education (NFIRE)	Major collective voice for rural education

A short term core course will be held during April or May, 1971 on site at each of the campus components. Much of the content will be given to the task of inventing futures for the emerging occupation, educational resource agent. A program "gestalt" will be derived from the Havelock Paradigm by the contributing program components. Core content will provide the inductory and general career orientation for the trainees. The developmental order and methods of procedure are contained in "Schedule of Events, Planning Session, March 14-20, 1971."

PART III

5. TUSKEGEE INSTITUTE (PROBLEM SOLVING)

5. Tuskegee Institute -- Problem Solving

1. Introduction

This memorandum takes the outline developed by the project representatives in the consortium following the Havelock paradigm and fills out the outline in some detail. All of the participating institutions agreed to initially give a common orientation to trainees that insures sharing of the project perspective regardless of the division of labor in the project and variation in emphasis. This entails making explicit the theoretical concepts from which operating hypotheses will be derived. Following is specification of the training program.

a. Scientific Basis of Action Programs -- First Year May 1-5, 1971

The training offered in this program is for social technicians designated as "educational resource agents" and not an effort to make scientists. As an exercise in applied science some understanding of the rationale underlying the applications is desirable.

What the introductory or orientation period seeks to do is to give what James B. Conant[1] describes as an "understanding of science." This basic understanding is necessary to have the technicians use the tools, skills and knowledge of science instead of relying on folk beliefs, intuition and hoary dogmas. Knowledge about the social technology of problem-solving will prevent attempts to use buggy nuts and bolts on a welded automobile chassis.

b. Scientific Knowledge Versus Folklore

A scientific fact is statement about phenomena in a conceptual framework. The facts are arrived at by the study of a process. The question to be answered is, "How did this condition or result come about? Careful study of the process will permit some generalizing and some predictability. The scientist can say that the observed result may be expected when the process that produced it is operative. The extent to which exceptions must be made raises questions about adequacy of the analysis of the process. Experimentation devised in terms of theory and conceptualization results in scientific fact where the replication of the experimental procedure results in the anticipated product.

In scientific analysis there is structured observation. However, unstructured observation may lead to structured observation. Thus, hunches and beliefs may prove to be of value when they are put in testable form and the adequate instruments for the testing are available. Science permits questioning to prove or disprove the validity of a belief. So, we say that science is secular. On the other hand folk beliefs and folk knowledge that denies questioning or examination of a belief is said to be a "sacred" realm. "The history of science reveals that experimental Methodology proceeds from crude observations and accurate measurements."(2) The foregoing statement by Fairweather is followed by the observation that, "where innovations threaten favored cultural traditions they receive hostile response." Educational resource agents especially need sensitivity training to be on the alert for these responses.

Let us choose an educational tradition and see what its tenacity is. The tradition of homework for elementary school children. In some strata of society, homework has a meaningful place in the family calendar and in the daily schedule. There is a strong feeling in these families about a teacher who does not assign homework. Assessment of the benefits and dysfunction of homework requires taking into account the beliefs of the parents and of the teachers and some objective measure of the knowledge acquisition of children who do and do not have homework. Many examples of folk belief may be given and discussed. As we use folk belief here it is not restricted to the lore of the non-literate but to any fund of knowledge that is accepted by a group on faith and supported by a specious logic. Included in the folk belief category are traditions, dogmas, rote learning and other time-honored or authority-given information not subjected to critical scrutiny.

c. Acquisition of Knowledge Through the Scientific Method

One of the most readable and easily understood discussions of science for the non-scientist is James B. Conant's small volume with the title "On Understanding Science." The basic ideas in Conant's thesis are:

(1) A necessary condition for scientific investigation is an exact and impartial analysis of the facts.

(2) Application of rational methods to the study and solution of human problems.

(3) A primary agreement to be reached is that the need is for some understanding of science rather than those facts and principles as knowledge about science.

(4) There are two ways of probing into complex human activities and their products:

   (a) Retracing the steps by which certain end results have been produced.

   (b) Dissection of the result to reveal its structural pattern and expose the logical relations of the component parts, and incidentally, expose also the inconsistencies and flaws.

(5) The "controlled experiment" and the planned or controlled observation is put in the forepoint of the relevant variables. Errors frequently spring from the overlooking of important variable factors.

(6) Emphasize the difference between the observational sciences and the experimental sciences.

(7) Avoid misunderstanding about science that may come about by failure to see the difference between invention and scientific discovery of history of the practical arts and development of science.

(8) Science emerges from the professional activities of man to the extent that new concepts lead to further experiments and observations.

(9) It takes a new conceptual scheme to cause the abandonment of an old one. New concepts are required before variables can be controlled and interplay between advances in experimentation and development of new concepts.

(10) The serendipity factor or accidental discovery is a critical consideration remembering Pasteur's axiom: "Chance favors only the prepared mind."

(11) Tremendous spurts in the progress of the various sciences are almost always concerned with the development of a new technique or the sudden emergence of a new concept.

d. The Scientific Method in the Intellectual Disciplines That Focus on Man as a Member of Society and on the Groups and Societies that He Forms -- The Social Sciences

Antecedents of Havelock's approach may be found in the work of anthropologists who focused their attention on Cultural diffusion. In 1945 Melville Herskovitz wrote on "The Processes of Cultural Change", saying, "Changes in a Culture are affected by innovations introduced from within and from without. Change from within takes the form of inventions or discoveries, those from without are due to borrowing."(3) TWenty years later Fairweather wrote "Social innovative experiments require field observations in the naturalistic social setting" and went further to comment, "existing experimental methods of social innovation are in an embryonic stage, their eventual status is, of course, unknown." The activity in which this project engages is experimental and the Havelock guide undertakes moving experimentation beyond the embryonic stage.

The social sciences, especially anthropology, psychology and sociology have long been concerned with cultural process and the transmission of knowledge. In 1943, Charles S. Johnson

edited the papers presented in a symposium on "Education and the Cultural Process" printed as an issue of the American Journal of Sociology[4] and reprinted in book form. Contributors included renown anthropologists Margaret Mead, Robert Redfield, Bronislaw Malinowski, Ruth Benedict, Scudder Mekeel, Hortense Powdermaker, and Mark H. Watkins. Sociologists included were Louis Wirth, Edgar Thompson, Robert E. Park, Donald Pierson and Horace M. Bond.

Some of the conceptualizations relate to our current concerns. In his introduction to the symposium, Johnson refers to John Dewey's ideas that the process of cultural transmission and renewal is complicated by the diverse cultural origins of the population and by the continued isolation of many groups in more or less closed communities and Dewey's conception of education as being not only a process by which a cultural heritage is transmitted from one generation to another but a process by which, through the medium of communication, a society renews and perpetuates itself as a society. Park, the sociologist, interprets communication as not merely being a means of transmission but a means of participation in a common experience and a common culture.

Ruth Benedict sees education the cultural process as not only intellectual development but also training of the emotions and willpower relative to the social order in which they occur. The transmission of our democratic heritage as preparing children in our schools to act as adults with initiative and independence but did not see our schools as doing this. The school experience trained for docility and dependence she felt but concluded, "There

are many classroom customs which could be introduced which could give the child greater experience in responsibility and initiative."(5)

Ianni, in 1967, gives a sweeping historical account and a comprehensive treatment of the behavioral sciences as they are related to education. He gives a firm reminder that the school is a social system and as such, "...it operates in much the same way as other social systems, with social norms, status and their assigned roles, communication and social interaction, stability and control, as well as change and innovation."(6) Where these representatives of the disciplines set forth their own ideas in 1943, twenty-five years later Ianni does a succinct summary of the behavioral sciences and their relation to culture transmission:

> "All cultures include education, and education is the principal means by which societies perpetuate culture. We have, in fact, defined education as the process of culture. Every society faces the task of preparing its members from birth on for the tasks and attitudes that it values. All societies accomplish this preparation either through unconscious, informal observation, through more conscious, organized, but still informal observation, or through some degree of compulsion resulting from the manipulation of rewards and punishments. As coeieties become more complex, special institutionalized means are developed to ensure the orderly transmission of the culture, and thus schools, educational systems, teachers, and a variety of education-related specialists come into being. All this education, whether formal or informal, has the additional task of socialization and the molding of personalities along certain culturally valued lines."

A considerable body of literature is available on the Sociology of Knowledge. The theories of Marx, Scheler, Mannheim, Durkheim and Sorokin may be examined. Mannheim followin in the marxist tradition regarding the existential base securing social position as determining the "perspective", i.e., "the manner in which one views an object, what one perceives in it, and how one constitutes it in his thinking."

The two chapters on the Sociology of Knowledge in Merton's Social Theory and Social Structure provides a view of the sociology of knowledge sufficient for the discussion in this orientation.

> "Scheler claims that they can be changed in any fundamental sense only through race mixture or conceivably through the "mixture" of language and culture. Building upon these very slowly changing "Weltanschauungen" are the more "artificial" forms of knowledge which may be ordered in seven classes, according to degree of artificiality: 1. myth and legend; 2. knowledge in the natural folk-language; 3. religious (ranging from the vague emotional intuition to the fixed dogma of a church); 4. the basic types of mystical knowledge; 5. philosophical-metaphysical knowledge; 6. positive knowledge of mathematics, the natural and cultural sciences; 7. technological knowledge. The more artificial these types of knowledge, the more rapidly they change. It is evident, says Scheler, that religions change far more slowly than the various metaphysics, and the latter persist for much longer periods than the results of positive science, which change from hour to hour.

> "This hypothesis of rates of change bears some points of similarity to Alfred Weber's thesis that civilizational change outruns cultural change and to the Ogburn hypothesis that "material" factors change more rapidly than the "non-material." Scheler's hypothesis shares the limitations of these others as well as several additional shortcomings. He, nowhere, indicates with any clarity what his principle of classification of types of knowledge — so-called "artificiality" — actually denotes. Why, for example, is "mystical knowledge" conceived as more "artificial" than religious dogmas? He does not at all consider what is entailed by saying that one type of knowledge changes more rapidly than another."(7)

A later discussion of "Cultural Lag, Social Change, and Education"(8) discusses value culture and technical culture. This culture, which satisfies the need for a feeling of stability and "rightness" can be called the value culture. The technical culture can change rapidly, but the essence of the value culture is that it provides a sense of permanence which cannot be achieved if the values are in constant flux.

The major assumption of the cultural lag theorists is that we must change values as quickly as we change technology. We must keep up with technological change. But from what we have just said, what does "keeping up" mean? How would we know it if we had "kept up"? How could we tell how far, and in what specific directions, we would have to move in order to "catch up"?

To its spokesmen, cultural lag is the difference in rate of change in technology and values at a given point in time. What we are suggesting here is that the lag is not a function of rate of change at all, but that it represents the compatibility of the values inherent in new technology with the existing values.

e. The Unitary Approach in the Social Sciences, Functionalism, Field Theory, Systems Analysis

Functionalism. Merton has developed a paradigm for functional analysis in sociology in which the most relevent component for consideration of innovation is:

Concepts of Objective Consequences
(functions, dysfunctions)

"We have observed two prevailing types of confusion enveloping the several current conceptions of "function":

(1) The tendency to confine sociological observations to the positive contributions of a sociological item to the social or cultural system in which is implicated; and

(2) The tendency to confuse the subjective category of motive with the objective category of function.

Appropriate conceptual distinctions are required to eliminate these confusions.

The first problem calls for a concept of multiple consequences and a net balance of an aggregate of consequences.

Functions are those observed consequences which make for the adaptation of adjustment of a given system; and dysfunctions those observed consequences which lessen the adaptation or adjustment of the system. There is also the empirical possibility of nonfunctional consequences, which are simply irrelevant to the system under consideration.

In any given instance, an item may have both functional and dysfunctional consequences, giving rise to the difficult and important problem of evolving canons for assessing the net balance of the aggregate of consequences. (This is of course, most important in the use of functional analysis for guiding the formation and enactment of policy.)

The second problem (arising from the easy confusion of motives and functions) requires us to introduce a conceptual distinction between the cases in which the subjective aim-in-view coincides with the objective consequence, and the cases in which they diverge.

Manifest functions are those objective consequences contributing to the adjustment of adaptation of the system which are intended and recognized by participants in the system.

Latent functions, correlatively, being those which are neither intended nor recognized.*

Basic Query: What are the effects of the transformation of a previously latent function into a manifest function (involving the problem of the role of knowledge in human behavior and the problems of manipulation of human behavior."

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*The relations between the "unanticipated consequences of action and "latent functions" can be clearly defined, since they are implicit in the foregoing section of the paradigm. The untended consequences of action are of three types:

(1) those are functional for a designated system, and these compromise the latent functions;

(2) those which are dysfunctional for a designated system, and these compromise the latent dysfunctions; and

(3) those which are irrelevant to the system which they affect neither functionally nor dusfunctionally, i.e., the pragmatically unimportant class of non-functional consequences.

Field Theory: Kurt Lewin. The most fundamental construct for Lewin is, of course, that of "field." All behavior (including action, thinking, wishing, striving, valuing, achieving, etc.) is achieved of as a change of some state of a field in a given unit of time.

> "In treating individual psychology, the field with which the scientist must deal is the life space of the individual. This life consists of the person and the psychological environment as it exists for him. In dealing with group psychology or sociology, a similar formation is proposed. One may speak of the field in which a group or institution exists with precisely the same meaning as one speaks of the individual life space in individual psychology. The life space of a group, therefore, consists of the group and its environment as it exists for the group. It is the tasks of the scientists to develop constructs and techniques of observation and measurement adequate to characterize the properties of any given life space at any given time and to state the laws governing changes of these properties.
>
> In carrying out this task, it is necessary to determine specifically what things are to be included in the representation of any given life space at any particular time. This problem is equivalent to that of determining criteria for attributing scientific "existence" or "reality" to phenomena. It is also closely related to the problem of defining the boundaries of a specific science, for it raises such questions as "What is a psychological fact, an economic fact, a political fact, etc.? In defining a given field, or life space, it is also important to characterize it so that the interdependence of its parts may be treated satisfactorily. Finally, there is the problem of specifying its location and depth in time. (9)

Chapter IX, Frontiers in Group Dynamics, and Chapter X Behavior as a Function of Total Situation may be discussed with profit.

System Analysis. In regard to problem solving, systems analysis background will be an approach that will guard against precipitate action or disregarding essential considerations. Undesirable results of problem solving may be anticipated and provided for like side effects of medication or fallout from atomic reaction.

> "It has become clear that complex systems are counterintuitive. That is, they give indications that suggest corrective action which will often be ineffective or even adverse in its results. Very often one finds that the policies that have been adopted for correcting a difficulty are actually intensifying it rather than producing a solution.
>
> "Choosing an ineffective or detrimental policy for coping with a complex system is not a matter of random choice. The intuitive processes will select the wrong solution more often than not. A complex system, a class to which a corporation, a city, an economy, or a government belongs, behaves in many ways quite opposite of the simple systems from which we have gained our experience.
>
> "But in complex systems cause and effect are often not closely related in either time or space. The structure of a complex system is not a simple feedback loop where one system has a multiplicity of interacting feed back loops. Its internal rates of flow are controlled by non-linear relationships. The complex system is of high order, meaning that there are many systems states (or levels). It usually contains positive feedback loops describing growth processes as well as negative, goal-seeking loops. In the complex system the cause of a difficulty may lie far back in time from the symptoms, or in a completely different and remote part of the system. In fact, causes are usually found, not in prior events, but in the structure and policies of the system."

"The complex system presents apparent causes that are in fact coincident symptoms. The high degree of time correlation between variables in complex systems can lead us to make cause-and-effect associations between variables that are simply moving together as part of the total dynamic behavior of the system. Conditioned by our training in simple systems, we apply the same intuition to complex systems and are led into error. As a result we treat symptoms, not causes. The outcome lies between ineffective and detrimental.

"This failure of intuition has often been found in the corporate setting by the process of building a simulation model of the policy structure of the organization. Often it is possible to show that those policies and practices of which the organization is most aware are by themselves are sufficient to create the difficulties that plague the organization. In fact, often the very things being done to correct the difficulty make it worse. If the attempted solution intensifies the problem, wrongly attributed to another source, the organization likely will redouble its "corrective" action, producing more difficulty and pressure for still more remedial action. A destructive spiral becomes established.

Contributing to the selection of ineffective programs is the nature of the conclift between short-term and long-term considerations in complex systems. Very often the actions that seem easiest and most promising in the immediate future can produce even greater problems at a later time. Humanitarian impulses couples with short-term political pressures lead to programs whose benefits, if any, evaporate quickly, leaving behind a system that is unimproved or in worse condition. Job-training programs, low-cost housing programs and even financial aid, when used alone without improvements in the economic climate of a city, can fall into this category of short-term promise followed by detrimental long-term change." (10)

f. The Cultural Process of Communication and Diffusion, as Means of Participation in a Common Culture as Related to Education of the Rural Disadvantaged

"In human communication, be via linguistic, aesthetic, or other channels, meaning is critically involved at both the initiation (the intentions being encoded by the source) and the termination (the significance being decoded by the receiver) of any communicative act.(11) Communication is critical in the process of problem-solving from source through channel to receiver. Meaning agreement in encoding and decoding is an essential."

The understanding of science and its application to diffusion makes explicit definition and clarification a pre-condition. The educational resource agent of change needs to operate with an understandable rationale and not out of an ideological mystique or personal charisma if the agency may be replicated systematically. To problem-solving the tactics and strategies of science may be applied with an adequate communication system.

2. Problem Solving

It is assumed in the Havelock plan that Tuskegee Institute as a component of the Schema will be concerned with problem-solving and problem-solving is to be done at the local level.

Behind this designation of responsibility there is the decision about division of labor. The other two institutions will be concerned with educational echelons about the local level. As a condition of agreement between the participating

institutions, Tuskegee Institute has accepted its allotted place. This acceptance includes the decision that in the orientation phase the theoretical basis of problem solving be considered by all trainees at all levels.

a. Definition of a problem.

b. Characteristics of the problems.

c. Whose problem? Is the rural child a problem or are those who consider him to be a problem his problem?

Problem Identification -- May 6-31, 1971

Trainees who participated in the orientation workshop will be given an assignment in anticipation of June 1-12 workshop. This workshop is to be concerned with basic content in one of the three basic areas; the area of major for the trainees concentration on Problem Solving at the local area for Tuskegee Institute.

Between May 6 and June 1, trainees will be expected to follow a directive for Problem Identification. They will bring to the June 1 workshop:

a. A listing of problems in their school as recognized by administrators -- Superintendents, Supervisors, Principals, Teachers.

b. A listing of problems as recognized by selected pupils.

Problem Solving Workshop -- June 7-18, 1971

At the first session trainees will submit their interim assessment of their problems with the selected problem they prefer to attend to. Several sessions will be given to discussion of theories of problem-solving.

a. Theoretical bases will be referred to and options in approaching them will be considered.

b. Patterns of solution of problems will be clearly described.

c. Applications of procedures or process will be discussed.

d. Personel analysis sessions on professional commitment. This will answer the question "What is indicated?" Any clear answer to that question raises the personal one, "Can I do this?"

e. Techniques and approaches. Here will be given instructions for the Field Internship.

Study of the Havelock Paradigm[12] which follows will be taken up most of the time in this workshop with illustration and documentation from the Tuskegee Institute experience and other resource materials assembled for the program.

Stages in the Problem Solving Process

a. Building a Relationship

(1) The client as the rural/culturally limited community member

(2) Attributes of rural/culturally limited community members

(3) Cultural differences in establishing relationships

(4) The power structure within which the relationship must be established

(5) Relationship with intermediate units

(6) The client as the educational practitioner

There are many things to be taken into account when we consider Tuskegee Institute as a "change agent" through problem solving. Some of these may be fruitfully examined and discussed:

The Complexity of the Situation in which Tuskegee Institute has had to carry on its operations. The expressed intent of a problem-solving activity (Manifest function #1) and the hidden agenda of problem-solving activity (Manifest function #2) and the result (latent function) that may have resulted from conflict of Manifest function #1 expressed to engage in activity with approval or neutrality of the dominant political and social elements of the area of operations (white establishment) and Manifest function #2 activity objectives expressed or insinuated to the client group to secure their involvement.

The Intricacies of Strategy necessary in problem-solving activities. Example: (A study of health care practices in Macon County is approved for a grant from a foundation. The foundation stipulates the condition of an approval statement from the county Medical Society. The county Medical Society is all white. Direct request is not indicated. The Medical Director of the Tuskegee Institute hospital trades on his friendship with the top state health officer in Montgomery who uses his good offices to secure the needed approval statement and the foundation makes the grant). Many examples of strategy intricacies may be described in a variety of programs.

The development of problem-solving formulae and the procedures followed in their diffusion. A listing of experiments and demonstrations adopted elsewhere and how adoption may be made.

Role Definition Related to Problem

Careful analysis of the problem and the circumstances in which it is will require very careful study to determine whether catalytic action, solution giving or process helping is indicated. It is important to have the right local sponsorship. No matter how impressive your credentials may be from a prestige agency afar, their first usefulness is their enlistment of local sponsorship.

A messenger must have acceptable credentials which the gossip flow will carry through the area of operations and the change agent will meet this image in the eyes of those with whom he has to enter into relationships.

Diagnosing the Problem

a. Relationship of attributes of rural/culturally limited client systems to diagnosis.

   (1) Empathy — how to relate to the problems of culturally different client systems

(2) Making a diagnostic inventory

(3) Establishing limitations — boundaries of problem

(4) Diagnosing for client's, not change agent's benefit

Empathy and Relating. The change agent should be rid of ego deficiency that causes emphasis upon difference between himself and the client. The difference is apparent. The achievement that takes some doing is showing how like the client he is.

There is assistance to establishing rapport in letting the client "tell you." Even if the opinions expressed are errors and misconceptions the feeling of significance the client gets from informing is an asset to developing a harmonious relationship. The errors and misconceptions revealed can give the agent some idea about the task before him.

Effective empathy through which the agent sees the dimensions and characteristics of the clients world is essential to the productive action of the agent in that world. Among the several health care practices programs carried on by Tuskegee Institute is one in which the reduction of material and infant mentality in child birth was undertaken. Pregnant women were examined at a clinic and given a card which they must present to a mid-wife in order to have the mid-wife's services. Pregnant women whose examinations indicated problems were referred to the hospital for prenatal care and delivery. Interviews with mid-wives and women who had been served by the hospital resulted in information on what the social experience meant regardless of the effectiveness of obstetrical service.

Another health inquiry took a group of patients who had had hospital care and simply asked them if they were ill, would they go to the hospital and the whys for the answer given. Some interesting facts were brought out about the cultural meaning of illness and how, when these cultural assessments were taken into account, hospital care gained greater acceptance.

The relationship of attributes of the client system to diagnosis needs to be clearly defined and understanding will determine how different status and positions require different approaches to obtain the common objective.

A Tuskegee study of health in the value system of rural people produced information beyond health alone. It showed differences between persons occuping different status in their concern about intra-generational mobility and inter-generational mobility.

c. Implementation at Which the Problem Solving Process Aims

(1) Program it. Develop procedures for implementing the change. Determine time schedule to be followed and schedule of resource allocation.

(2) Control it. Set up criteria for implementation and evaluation guidelines.

(3) Evaluate it. Develop feed-back mechanisms, perform evaluations on stated goals and objectives utilizing control criteria.

We may select cases in which each of these change operations was undertaken by Tuskegee Institute and specify what occurred adapting the "change agent" paradigm as follows:

CHANGE AGENTS

Sex Steps of Change Agent Actions	Catalyst	Solution Giver	Process Helper
1. Develop a viable relationship			
2. Diagnosis			
3. Acquiring relevant resources			
4. Choosing the solution			
5. Gaining acceptance			
6. Stabilization and self-renewal			

This means a codification and respecification of Tuskegee Institute activities directed toward social change.

We can examine Tuskegee Institute activities directed at social change in terms of Merton's theorem:

> "To seek social change, without due recognition of the manifest and latent functions performed by the social organization undergoing change is to indulge in social ritual rather than social engineering. The concepts of manifest and latent functions (or their equivalents) are indispensable elements in the theoretical repertoire of the social engineer. In this crucial sense, these concepts are not 'merely' theoretical (in the abusive sense of the term), but are eminently practical. In the deliberate enactment of social change, they can be ignored only at the price of considerable heightening the risk of failure."(13)

Internship Follow-Up Workshop -- July 26-30 thru August 2-6, 1971

Trainees will return from their internship assignments and report on the experience there. These reports will be presented following a check list based on Materials presented in the Core Course and the content workshop. Relationship of internship to the jobs to which they are returning will be pointed up.

Assessment Workshop -- January 10-21, 1972

Assessment of application of Conceptual tools and suggested procedures in the trainee's on-the-job experience. Particular attention will be given to structural and ideological resistances to change. Encoding problems in communication will be considered for subsequent on-the-job activity.

Workshop for Intermediate and State Level Trainees From Other Project Components -- June 5-16, 1972

Trainees will discuss problems on their respective levels and select those to which they would prefer to give attention. Sessions will involve discussion of the theories of problem-solving, patterns of solution and application of procedures.

Internship (for above group) -- June 19 - July 14, 1972

This group of trainees will be placed in academic settings among rural poor blacks.

Internship Follow-Up Workshop -- July 17-26, 1972

The trainees will report on their internship assignments. Their reports will be presented following a check list based on materials presented in previous courses (core and content), and other internship assignments.

Workshop for Remainder of State Level and Intermediate Trainees from Other Project Components -- June 11-22, 1973

Content for these additional state and intermediate level trainees will be essentially the same as the first group.

Internship (for above group) -- June 25 - July 20, 1973

The trainees will be placed in academic settings among rural poor blacks. This group will have had internship in two other settings — Indian, Mexican-American, and possibly culturally deprived whites.

Internship Follow-Up Workshop -- July 23 - August 1, 1973

Reports will be made by the trainees on their internship assignments. Discussion will be held to give attention to the application of knowledge and experience gained in previous courses and internship assignments.

3. Possible Research Areas

a. Facilitating and Impeding Influences on the Problem Solving Processes in Local Schools

Failure to include a research component in the project will amount to irresponsible if not wanton waste of an opportunity to test theories and practices followed by trainees in the educational resources agent training program internship phase.

(1) Reception in the local situation of innovation by the client population consisting of pupils and parents, teachers and local school administrators, local system administrators and school boards.

(2) How dissemination becomes diffusion through what local community mechanisms.

(3) Deterrents to innovation. Content and form of expression of opposition. Those who articulate opposition.

(4) Impingement of influences beyond the local community on reception of innovation and how these influences receive expression within the community.

(5) Roles played by those who articulate and consolidate opinions in favor of and opposed to change.

(6) Measurement of the progressive development of a climate for or against acceptance of innovation.

A research design will be developed using participant observation and opinion research devices. The participant observation devised will keep the various component of the client population under continual observation. Opinion questionnaire will be used with a sample of the client population. The opinion appraisal devices will record the journal expression of opinions which may be related to the informal affective conduct of the same persons recorded by the participant observers.

4. Professional Staff

THEODORE JAMES PINNOCK
(Director, Human Resource Development Center, Tuskegee Institute)

Education	Degree	Year	Major
Tuskegee Institute	M.S.	1961	Agriculture
University of Wisconsin	Ph.D.	1965	Adult Education
University of Wisconsin	Post-Doctoral	1966	Urban Affairs

Recent Work Experience

Director, Experimental and Demonstration High School Equivalency Program for culturally deprived rural high school dropouts, 1967.

Director, Office of Manpower Automation and Training Program, 1965-66.

Associate Director, Macon County Functional Illiteracy Program, 1964-66

Chairman, Department of Labor Task Force to study and make recommendations relative to the Selective Service Rehabilitant Program.

Assistant Professor of Psychology, Department of Education, Tuskegee Institute, 1963-64.

Selected Publications

How Parents See Creative Play School in the South: A comparison of the Effectiveness of Film and Bulletin in Transmitting Knowledge and Changing Beliefs.

Eight Months of Operation - The Bureau of Employment Security Program for Assisting the Selective Service Rehabilitants.

Testing in Basic Adult Education, 1967; Educational Projects, Inc. Magazine.

Results of an Exploratory Study of Functional Illiterates in Macon County, Alabama, December, 1967; Am. Vocational Journal.

BENNIE D. MAYBERRY
(Director, Institutional Development, Tuskegee Institute)

Education	Degree	Year	Major
Michigan State College	M.S.	1949	
Michigan State College	Ph.D.	1951	

Recent Work Experience

Dean, School of Agriculture, Tuskegee Institute, 1962-68.

Selected Publications and Honors

Program Evaluation Consultant for the Education Personnel Development Act (EPDA) of the Office of Education, Washington, D. C.

Executive Coordinator of the Model Cities Program during the Pre-Planning Period (Tuskegee Institute).

Coordinator for the Alabama Center for Higher Education.

Director of Manpower Training and Labor Mobility Programs for four years (Tuskegee Institute).

FRANKIE N. GOLDEN ELLIS
(Associate Professor of Elementary Education; Director, Student Teaching Graduate and Undergraduate Faculty)

Education	Degree	Year	Major
Savannah State College	B.S.	1939	Elementary Education
Atlanta University	M.A.	1942	Education
University of Texas	Ed.D.	1965	Curriculum Instruction in Elem. Education

Course work in early Childhood Education completed at Auburn University winter quarter, 1969.

Recent Work Experience

Primary Grades, 1933-38

Instructional Supervisor, various counties in Georgia, 1939-1953

Elementary School Principal, 1953-1963

College Teaching Experience, Tuskegee Institute

Selected Publications and Honors

Article -- American Teachers Association Journal, Intercultural Education in Georgia Schools, 1948.

Other -- AACTE, February, 1965, Developing Concepts of Americanism.

The Pad (Practices at DeRenne), DeRenne Elementary School, Savannah, Georgia, September, 1956)

A Handbook of Tuskegee Institute, Tuskegee Institute, Summer, 1958.

Partners in Learning, Student Teaching Handbook, School of Education, 1966.

Partners in Learning, Student Teaching Handbook, School of Education, 1967.

Workshop in Improvement of Student Teaching, sponsored by Southern Education Foundation, Summer, 1967.

Guide for Certifying College and University Programs in Early Childhood Education, July, 1969; (Co-Author)

Early Childhood Education Handbook for School Personnel (Soon to be released).

GLENN R. HOWZE
(Director, Tuskegee Area Study)

Education	Degree	Year	Major
Schreiner Institute	A.A.	1958	Liberal Arts
North Texas State Univ.	B.A.	1960	Sociology
McCormick Theological Sem.		1961	Theology
Southern Methodist Univ.	B.D.	1963	Theology
North Texas State Univ.	M.A.	1963	Sociology
Washington State Univ.	Ph.D.	1969	Sociology

Recent Work Experience (Teaching)

Assistant Professor, Tuskegee Institute, 1967-

Teaching Assistant, Washington State University, 1964-65

Instructor, Lamar State College of Technology, 1963-64

Part-time Instructor, North Texas State University, 1961-63

Recent Work Experience (Research)

Research Associate in the Division of Behavioral Science Research of the Carver Research Foundation, Tuskegee Institute, September 1, 1967 - August 31, 1968

Research Assistant on several research projects, North Texas State University, June, 1961 to June, 1966.

Selected Publications and Honors

Glenn Howze, "Involvement in Admission to Two Homes for the Aged," unpublished master's thesis, Department of Economics and Sociology, North Texas State University, Denton, Texas, 1963.

Glenn Howze, "Frequency and Per Cent Distributions of Items From Study of Rural Poverty of Selected Alabama Counties Conducted by the Southern Rural Research Project During the Summer of 1967," mimeographed and distributed by the Division of Behavioral Science Research, Tuskegee Institute, Tuskegee Institute, Alabama, March, 1968.

Eric R. Krystall, Neil Friedman, Glenn Howze, and Edgar G. Epps, "Attitudes Toward Integration and Black Consciousness: Southern Negro High School Seniors and Their Mothers," paper delivered at the Thirty First Annual Meeting of the Southern Sociological Society, April, 1968, Atlanta, Georgia. The manuscript has been accepted for publication by Phylon.

GLENN R. HOWZE (Continued)

Glenn Howze, Felt Deprivation and Alienation: A Study of Seasonally Employed Farm Workers, Ph.D. dissertation, Washington State University, 1969.

Glenn Howze and Kathleen Newby, "Report of the Study of the Relocatees from the 1965-66 and 1966-67 Labor Mobility Demonstration Projects," Tuskegee Institute, Alabama, November, 1968.

Honors

Phi Theta Kappa

Alpha Kappa Delta

National Institute of Mental Health Fellow at Washington State University from September, 1965 to June, 1967.

LEWIS W. JONES
(Professor of Sociology, Tuskegee Institute)

Education	Degree	Year	Major
Fisk University	A.B.	1931	
University of Chicago		1932	
Columbia University		1939	
Columbia University	Ph.D.	1954	

Recent Work Experience

Research Assistant, Supervisor of Field Studies, Instructor in Sociology, Fisk University, 1932-42.

Reports Analyst, Office of War Information, Domestic Branch, Bureau of Special Services, January - October, 1943.

Tuskegee Institute, 1948-1960
Assistant Professor, Sociology, School of Education
Director of Research, Rural Life Council
Research Coordinator
Research Professor and Director of Social Science Research

Race Relations Department of A.M.A. Fisk University, 1961

Visiting Professor of Sociology, Colorado College, Colorado Springs, Colorado, 1964.

Research Experience

Study of the Menifee, Arkansas Rural School, 1935
(For the Julius Rosenwald Fund)

A Compendium on Economic and Social Factors Affecting Rural Education, 1940-42 (For the Julius Rosenwald Fund)

Study of Negro Farmers in the Tennessee Valley, 1950
(Grant from the Tennessee Valley Authority)

Selected Publications and Honors

"Machines the Cotton Fields; Children in School", School and Society, October 6, 1951.

"Reconstruction Number Two", The Nation, September 27, 1952.

"The Negro Farm Agent", Journal of Negro Education, Winter 1953.

Cold Rebellion: The South's Oligarchy in Revolt, 203 p. MacGibbon & Kee, London, 1962.

5. References

1. Conant, James B., Our Understanding Science, New Haven: Yale Press.

2. Fairweather, George W., Methods of Experimental Social Innovations, John Wiley and Sons, 1967, p. 20.

3. Herskovitz, Mellville, "The Processes of Cultural Change" in The Science of Man in the World of Crisis, New York: Columbia Press, 1945, p. 24.

4. American Journal of Sociology, Charles S. Johnson (Ed.), Vol. XLVIII, No. 6, May, 1943.

5. Op. cit., American Journal of Sociology.

6. Ianni, Francis A. J., Culture System and Behavior, Chicago: Science Research Associates, Inc., 1967.

7. Merton, Robert K., Social Theory and Social Structure, New York: The Free Press, 1957.

8. Hodgkinson, Harold L., Education in Social and Cultural Perspectives, Englewood Cliffs, N. J.: Prentice Hall, 1962, p. 111, p. 114.

9. Cartwright, Darwin, (Ed.), Field Theory in Social Science, Kurt Lewin, New York: Harper Torch Books, 1951.

10. Forrester, Jay, Urban Dynamics, Cambridge: M.I.T. Press, 1969.

11. Osgood, Charles E., George Scici and Percy H. Tannenbaum, The Measurement of Meaning, Urbana: University of Illinois Press, 1957.

12. Havelock, Ronald G., A Guide to Innovation in Education, Ann Arbor: Institute for Social Research, 1970.

13. Merton, Robert K., Social Theory and Social Structure, New York: The Free Press, (Revised Edition), 1957.

PART III

6. UNIVERSITY OF NORTH DAKOTA (DIFFUSION)

6. University of North Dakota — Diffusion

a. Introduction

The information explosion and an increasingly complex society present to the practitioner or user of knowledge unprecedented problems of absorption and understanding. These problems also offer challenges to those who refuse to see men succumb to an overload of data and choose rather to master the data. It seems advisable to advance an educational program that is systematically designed to prepare resource agents for educational change.

The focus of attention in this component is on diffusion as a process. Diffusion is conceived as the process by which an innovation spreads. The four crucial elements in the analysis of the diffusion of innovations are: (1) the innovation, (2) its communication from one individual to another, (3) in a social system, (4) over time. (Rogers, 1965).[1]

Many who have reviewed the diffusion of innovation in education believe that considerable resources have been directed toward knowledge creation, e.g., within the elementary and secondary schools.

This proposal is built on the assumption that there is a need for an intermediary role between researcher and practitioner. Such personnel hold key linking roles pertianing to strategies for change in rural/culturally limited/minority education. This proposal is constructed within a design which conceives of the State Educational Agency as the entity largely responsible for identifying the diffusion needs within its geographic limits. Recognizing the growing emphasis toward regionalization, the

program considers intermediate educational districts as major centers for diffusion responsibilities. Much needed are knowledge linking personnel whose prime emphasis is to reach educators on the local level with pertinent information:

> Diffusion personnel must combine the positive elements of both of these specialities [librarian-media specialist and researcher] and more. They must be developed in such a manner that they have an active, seeking, nature. They must not only seek out sources of information. Their training must encompass the breadth and depth of the educational spectrum with an emphasis on the communication process. They must be capable of speaking the language of the various specialities.... (Havelock, in overview of Training Program, p.16).(2)

It is important for the knowledge linking personnel to systematically study the communication process. If communication is to be studied as a means of lessening the "gap" between researcher and practitioner, it is essential that the conceptual basis for communication be considered here.

A basic point of this proposal is that the theory and research of behavioral science can provide an affective means for furthering the understanding of social change, but that these potential advances in understanding are under-utilized partly for lack of an effective approach to communication as a contributor to social change. The basic purpose of any scientific investigation is a mapping out of reality--a mapping procedure which sets standards for definition, observation, and reporting in order that knowledge might be summarized and communicated. Scientific knowledge is intended to have a clear and precise relation to reality, while one is never sure about knowledge gained through undisciplined experience.

Science has much to offer in the way of "maps" of the environment that have withstood the verification of scientific procedures. These maps describe many aspects of reality that the lay person is not aware of; they may describe relations among phenomena that contradict everyday experience. Eventually verified maps (and some unverified ones) are incorporated into textbooks and become part of the formal educational process at various levels. There is a considerable time lag, mutual understanding is increased only among those enrolled in the appropriate educational program, and there are considerable problems of relevance.

This program views diffusion as entailing much more than dissemination, since communication is viewed as a <u>dialogue</u>, not as a process of persuasive change.

By way of introducing this view of communication, consider the following quotation from Hutchins(3):

> ...The Civilization of the Dialogue requires communication. It requires a common language and a common stock of ideas. It assumes that every man has reason and that every man can use it. It preserves to every man his independent judgment and, since it does so, it deprives any man or any group of men of the privilege of forcing their judgment upon any other man or group of men. The Civilization of the Dialogue is the negation of force. We have reached the point, in any event, when force cannot unite the world; it can merely destroy it.

The dialogic view of communication differs considerably from the monologic view of communication that has been so persuasive in our society. The monologic view was formulated early in classical rhetoric as the "art of persuasion," and embodied as well in early "transmission belt" theories of mass

media effects. The essence of the view is that communication is a one-way street in which all the power, knowledge and authority reside in the originator of the message, and that transmission and reception of messages or commands is sufficient for achieving the ends desired by the communicator. In fact, the only ends considered are those desired by the communicator.

While the monologic view has scored its successes--e.g., in advertising and propoganda, the limits of the possibilities have been clearly brought out. For example, Berelson & Steiner[4] have concluded that communication only reinforces the values already held by the audience, a conclusion that is echoed by many others in the field[5]. Others say it is simply grossly inadequate to account for what happens (or could happen) in communication. Bauer[6] has described "the initiative of the audience," showing that the influence process in communication is not all one-way. Carter[7] argues that greater understanding is a legitimate criterion for effective communication, and that understanding as an effect should be separated from desired effects upon subsequent behavior.

Knowledge linking personnel will be taught to recognize the values of a system that is user-oriented. The successful change agent is one who is aware of sources of change that will bring about a desired change, but also understands the social conditions for intervention and is able to utilize communication to establish a meaningful dialogue that makes change a social enterprise in which both change agent and clients provide important contributions to the identification, description, and solution of problems.

In referring to dialogue, Carter[8] used the term "coorientation," and said that anything less is a travesty of human communication. He also said:

> Coorientation is a hard state to come by. It requires that sufficient information be exchanged, so that, for example, two persons come to have the same view of a given situation. They may differ about how they will later respond to the situation, but with a sufficient exchange of information, we can at least say with confidence that a state of understanding has been reached.

In an earlier article, Carter[9] presented a paradigm of the orientation situation for one individual and used it as the basis for describing coorientation. In terms of the paradigm, at least three elements had to be exchanged -- the two objects (alternatives) and an attribute on which they are relevant.

> Thus, the term 'coorientation' should be reserved for the condition in which those three elements are the same for both individuals.

The view espoused by Carter sharpens at least four important characteristics of the dialogue: 1) that it does not necessarily entail behavior change; 2) that a mutual exchange of information is involved; 3) that a minimum of three elements from the orientation situation must be shared; and 4) that agreement on object values is not necessary.

Not all of the stipulations introduced by Carter have been incorporated into research on coorientation, although their implications are still worth considering. Empirical research has largely been initiated within the framework of a structural model of coorientation proposed by Chaffee and McLeod[10, 11]. This

model follows closely the Carter view, but does not give explicit attention to the attribute element Carter emphasized in his relevance paradigm.

In their general coorientational model, Chaffee and McLeod assume that a person who is cooriented with a second person has at least two distinguishable sets of cognitions. The basic concepts in the model follow from a consideration of the relations between different pairs of cognitions from the total set.

Chaffee and McLeod have distinguished between two types of cognitions which are within the scope of their model: 1) Knowledge of "what the facts are" (or "what the situation is"), and 2) values (whether the situation is good or bad). Regardless of the type of cognition involved, the three basic kinds of structural relations are the same.

The first person's cognitions ("what he thinks") can be compared to the second person's; to the extent that they are similar, there is some degree of cognitive overlap between them. If the overlap is with regard to "what the situation is," the relation is termed <u>understanding</u>. If overlap in values is involved, it is termed <u>agreement</u>.

The first person may think that his cognitions are the same as the second person's, or vice-versa. This relation can be throught of as "perceived cognitive overlap." Chaffee & McLeod have termed it <u>congruency</u>.

Finally, the first person's estimate of the second person's cognitions may match what the second person really does think; the extend to which they coincide is called <u>accuracy</u>.

Applying the coorientational model to the training of knowledge linking personnel, one may look at the tasks of the linker or resource agent as being at root coorientational. The resource agent is supposed to facilitate the exchange of situations across space and time, with the resource agent as a mediator in the exchange. Implicit recognition of the coorientational nature of this process is given by the communication maxim, "Know your audience." The maxim suggests that the agent should be cooriented with his audience on an a priori basis (in order, we suspect, that he may proceed on monological assumptions). Much evidence in the communication literature, however, indicates that communicators do not know their audiences(12, 13, 14) -- i.e., that a priori coorientation is rare.

The point we would stress is very simple, once you have taken a dialogic view of communication. Coorientation ought to be viewed as an end of communication, not merely as an antecedent condition to obtaining desired effects--particularly when a priori coorientation is known to be rare. A similar point has been made by Carter(15). We would also point out that the educational resource agent, in his role as mediator, must attend to three sets of coorientational ends: 1) coorientation between information source and client, 2) coorientation between himself and source; and 3) coorientation between self and client. The second and third coorientational ends may be viewed as means to the first. Training of knowledge linking personnel has too often focussed upon developing skills of "communicating to" an audience,

primarily the encoding of messages. Much needed is the development of additional skills: the ability to "be communicated with" in source relations, and the ability to observe client relevancies as the starting point for communication.

Coorientation, then, calls for joint use of the human representational capability in order that situations may be exchanged. The representational capability of the client must be exercised to insure timing relevance, and to locate specific educational problems in space and time, while the representational power of the educational researcher must be used to insure a desired change.

Approaching communication from a coorientation point of view, the resource agent will incorporate these characteristics into his information program:

1. Initiation of communication by the audience.
2. Descriptive behavior on part of audience.
3. Frequent exchange of messages with correction on meaning conveyed.
4. Stipulation of what constitutes complete description.
5. Frequent evaluation of the "state of coorientation."

It is important for the resource agent to remember that diffusion occurs within a social system. The agent must be able to determine norms of the system and to identify barriers, internal and external, to the social system. (Rogers,16).

Research suggests that the resource agent will be more effective if he engages in considerable person-to-person contact, avoiding the dangers of "filtered experience." He should periodically emerge from his office to take a hard look at unprocessed

reality, e.g., talk to administrators, teachers, students, and parents. He should avoid stereotyped diffusion responses, and proceed rather with various options for various assignments, using the appropriate medium for the specific message and situation (Havelock, 17.) Further, he needs to be engaged in continuous renewal that replenishes a social system in need of continuing innovation.

The social system has its channels of communication and media appropriate to the channels. Indigenous knowledge linking personnel in the social systems are recognized in the roles they play and respect is accorded them for the efficiency with which they use the appropriate channel and its designated media. For example, notices printed in a newspaper do not communicate to sub-cultural groups in some communities because the newspaper is not a channel of communication for them.

The knowledge linking personnel in an innovation program needs full knowledge of the society with particular sensitivity to the communications network and those playing diffusion roles indigenous to the system.

The communications concept coorientation may be regarded as a function of social interaction. Role assignments in a social system and effective role playing requires recognition of the role by an agent of change.

Knowledge linking personnel managing the communication function need confidence that the message is one of which the audience is receptive and the medium is one through which they expect it to come, in a language they speak.

b. Descriptions for Basic and Advanced Courses in Diffusion

Objectives

The course introduces the student to the process of diffusion of innovations. Considered will be the process by which an innovation is transferred from one person or aggregate of persons to another person or aggregate of persons in a social system over time. In a broader sense, diffusion will be examined as the process of conveying sources of change from a research system, be it a person or aggregate, through a second system, which acts first as a receiver and then as a source, to a third, and to later systems. The message might represent a material innovation, an idea, an attribute, a functional relationship, etc.

Readings

The student will be required to read from a wide assortment of texts, journals, and articles. Several of the readings will be found in the required text:

Everett M. Rogers with F. Floyd Shoemaker, Communication of Innovations: A Cross Cultural Approach, New York: Free Press of Glencoe, 1971. (Also 1962 edition by Rogers)

Additional books will be placed on reserve at the Library. Among the most often used readers will be:

Rogers, Everett M., Social Change in Rural Society, New York: Appleton-Century Crofts, 1960.

Lippitt, Ronald, Jeanne Watson, and Bruce Westley, The Dynamics of Planned Change, New York: Harcourt, Brace, 1958.

Schramm, Wilbur, Mass Communication, Urbana: University of Illinois Press, 2nd ed., 1960.

Bennes, Warren G., Kenneth D. Benne, and Robert Chin, The Planning of Change, New York: Holt, Rinehart and Winston, 1969.

Dexter, L. A., and D. M. White, People, Society and Mass Communication, Glencoe: Free Press, 1964.

*Matson & Montague, The Human Dialogue.

*Barnlund, Interpersonal Communication.

*Carter, On Defining Communication.

*Chaffee, McLeod, Guerrero, Implications of the Coorientation Approach in Communication Research.

Course Content

A. Nature and Scope of Diffusion as a Field of Study and a Profession

1. Education areas
2. Non-education areas
3. The meaning of "change agent"

B. What the Professional Change Agent Must Learn

1. Conceptual-diagnostic training
2. Orientation to theories and methods of change
3. Orientation to the ethical and evaluative functions of the change agent
4. Knowledge of the sources of help
5. Operational and relational skills

    (a) Cognitive skills--conceptualization, evaluation, self-appraisal
    (b) Action skills--relating to clients; performing as therapist, counselor, caseworker, trainer, consultant

C. Client Systems

1. Individual
2. Small Group
3. Organizations
4. Community

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*See References for complete citation.

D. Perspectives on the Communication Process

1. Definitions and concepts
2. Intrapersonal communication (perception and cognition)
3. Interpersonal communication
4. Group communication
5. Diffusion

E. Functions of diffusion, Communication

F. Effects of Diffusion, Communication

1. Attitude change, social change
2. Social, ethical, political, economic consequences
3. Limitations of effects

G. Role of the Resource Agent in the Change Process

H. Procedures and Problems in Planned Change

Projects

Contrasted with the advanced course in diffusion, this course will devote more attention to illustration, demonstration and example than to philosophical, historical and intellectual development of concepts. Students will participate in a change situation. They will also engage in projects designed to help them articulate their ideas about diffusion, e.g., preparing a manual on "how to train clients to be change agents" and contributing to a "Change Newsletter" in which they share ideas on achieving goals of change.

Students will be encouraged to begin the development of a personal library of resource materials that will help them better carry out their role as change agents.

Advanced Principles of Diffusion

Objectives

This course provides a deeper analysis of conceptual orientations; interdependence of theory and research; applications of concepts and methods in selected substantive areas.

Although much diffusion research has attended primarily to the problem of how to diffuse information and change down to members of an institution, this course will pay greater attention to the processes involved in the (two-way) exchange of information e.g., reaction to the source or originator of the change. If planned change programs are to be more than "blind" dissemination efforts, change agents must understand the total change process which includes communication as a means for joint "mapping" of problematic situations -- e.g., description of the sources of change and the conditions for intervention.

Readings

Examples of source materials follow:

For review of diffusion research tradition as exemplified by studies in rural sociology, education, medical sociology, communication: Rogers, 1962, pp. 21-56.

For studies and reviews in field of education:

Ross, D. H. Administration for Adaptability, New York: Metropolitan School Study Council, 1958.

Miles, Matthew B., ed., Innovation in Education, New York: Bureau of Publications, Teachers College, Columbia University, 1964.

Carlson, Richard O., Adoption of Educational Innovations, Eugene Oregon: Center for the Advanced Study of Educational Administration, University of Oregon, 1965.

Havelock, Ronald G., Planning for Innovation through the Dissemination and Utilization of Knowledge. Ann Arbor, Michigan: Center for Research on the Utilization of Scientific Knowledge, The University of Michigan, July, 1969.

Carlson, Richard O., ed., Change Processes in the Public Schools, Eugene Oregon: Center for the Advanced Study of Educational Administration, University of Oregon, 1965.

For studies and reviews in communication:

Greenberg, Bradley S., and Edwin Parker, eds., The Kennedy Assassination and the American Public, Stanford, California: Stanford University Press, 1965.

Deutschmann, Paul J., and Wayne Danielson, "Diffusion of the Major News Story," Journalism Quarterly, Vol. 37, 1960, pp. 345-55.

Carter, Richard F., and John Sutthoff, Communities and Their Schools, Stanford California: School of Education, Stanford University, December 1960.

For sources on organizational change and the contributions of social scientists and business and managerial researchers to the study of structure, development and change in organizations:

Barnard, Chester I., The Functions of the Executive, Cambridge, Mass.: Harvard University Press, 1938.

Etzioni, Amitai, ed., Complex Organizations: A Sociological Reader, New York: Holt, Rinehart and Winston, 1964.

Katz, Daniel and Robert Kahn, The Social Psychology of Organizations, New York: John Wiley, 1964.

Merton, Robert K, et al., Reader in Bureaucracy, New York: Free Press, 1952.

Simon, Herbert A. "Decision-Making and Administrative Organization," Public Administration Review, Vol. 4, 1944, pp. 16-25.

Tannenbaum, Arnold S., Social Psychology of the Work Organization, Belmont, California: Wadsworth Publishing Company, 1966.

Weber, Max, The Theory of Social and Economic Organization, England, Oxford University Press, 1947, pp. 329-340.

Guetzkow, H., "Communications in Organizations," in March, J. G., Handbook of Organizations, Chicago: Rand McNally and Co., 1965, pp. 534-573.

Course Content

A. Diffusion: Its Growth and Development

1. Theoretical models of sociocultural change and stability from a socio-psychological perspective

2. Models of change from other perspectives

   a. Historical
   b. Related fields (rural sociology, medical sociology, communication)
   c. Education

B. Changes in Social Institutions

1. Changes occuring in educational institutions
2. Changes occuring in mass communication institutions
3. Relationship of education and communication changes to changes in family, community, economy, government

C. Diagnostic Clarification of Problems

1. Communication and affective relations
2. Group processes for problem-solving and decision-making
3. Change from the social process point of view (systems analysis)

   a. Sources of change
   b. Channels of change
   c. Content of change
   d. Audiences of change ("client systems")
   e. Effects of change

D. Similarities, Differences

1. Types of institutions (private vs. public; elementary vs secondary vs higher education, etc. rural vs. urban)
2. Types of cultures

Projects

Examination of content of recent periodicals and papers of interest, including systematic analysis and discussion of reports of research, theoretical articles and critiques.

c. Specific Goals for Diffusion Training

Attitudinal

1. The communication-change process is viewed as a reciprocal relationship.

2. The use of the communication process is not pure art, but it may be analyzed and systematically used to identify and promote needed change.

3. Needed change is not identified and promoted unilaterally by the change agent but evolves through an interpersonal communication relationship.

4. The power of communication does not reside solely in persuasion but rather in a joint description or mapping of problematic situations and identification of sources of change.

5. The systematic and scientific analysis of communication aids in the understanding and effective use of communication.

6. Communication and education are intertwined at all levels; communication contributes to effective education, and effective communication facilitates the educational process at individual, small group, organizational and community levels.

7. Honest and open communication between contributors to change is to be encouraged and avoidance of communication is rarely to be tolerated.

Behavioral

1. Behavioral should be consistent with attitudinal goals.

2. Collect information descriptive of problematic situations relevant to the client.

3. Spend time listening to the client.

4. Keep informed of sources of educational change.

5. Refrain from exchange of data on sources of change unless their relevance to the client is established.

Knowledge

1. Systematic understanding of the communication process
2. Systematic understanding of the change process
3. Knowledge of the limitations of the descriptive power of current means of communication
4. Awareness of the potentialities of present and future means of communication such as changes in computer technology, information storage and retrieval, etc.
5. An understanding of how culturally different views of the environment have impact on the communication process.

d. Basic Terminal Objectives of the Program

At the completion of the diffusion program the participants should possess the following capabilities:

1. Familiarity with the communication process.
2. Familiarity with the change process.
3. Willingness to approach the diffusion role from the standpoint of reciprocal relationships.
4. Desire to organize and keep current an inventory of sources of information and services that can help achieve effective relationships.
5. Fortitude to notify developers if and when their suggestions seem inappropriate to the situation at hand.
6. Ability to seek out and identify client needs, potentialities and limitations.

Schedule for Training in Diffusion

Spring 1971	Two week workshop for Core Course
Summer 1971	1) Three week workshop. Training for twelve intermediate level persons from the three states who will be specializing in diffusion 2) Four week internship experience in school districts with large numbers of Indians 3) Three day post-internship workshop
Fall 1971	One week advanced course in diffusion
Fall 1971- Spring 1972	Problem, possible solutions, and application of diffusion techniques within the states at the intermediate level
Summer 1972	1) Two week workshop. Follow up on on-the-job problems and an application of diffusion methods -- i.e., Problem of the Professional Change Agent and what he must learn. Intermediate and local level persons. 2) Four week internship with same persons in schools with large numbers of Indians 3) Three day post-internship workshop
Fall 1972- Apring 1973	Apply and evaluate diffusion techniques in job setting
Summer 1973	1) Two week workshop for general course in diffusion for those persons in Development and Problem Solving 2) Four week internship with school districts with a large Indian population 3) Three day post-internship workshop
Fall 1973	Follow-up and Evaluate

e. Selected Possible Research Topics

Paralleling the instructional activities will be a limited research and development effort by the staff of this training program component. While the research and development effort is primarily intended to serve the interests of the project staff, through the coordinating and stimulating efforts of the consoritum coordinator and NFIRE it is anticipated that a limited attack on contemporary problems of knowledge linking will be possible The following partial list of topics indicates the nature and extent of the interests of project staff:

1. How many local level personnel can be most effectively served by one intermediate level person?

2. Further study of the effects of various types of communication on attitudes toward innovations

3. Study of attitudes toward innovation and toward the situation in which the innovation is introduced

4. Focus on the consequences of being innovative to determine whether the "cost benefitiveness" and other outcomes (consequences) justify an innovative approach

5. Consider the strength of an individual's commitment to a social system on the individual's adoption behavoir as compared to that of the social system.

6. Study of the nature and extend of ineffective communications that results when source and receiver do not share a common culture, i.e., lack homophily.

f. Professional Staff

EDWARD KRAHMER
(Chairman, Commission on Research, National Federation for the Improvement of Rural Education)

Education	Degree	Year	Major
Colorado State College	Ed.D.	1965	Statistics Ed. Psychology
Mankato (Minn.) State College	M.S.	1964	Math Education

Recent Work Experience

State Evaluator and Disseminator for Title III ESEA, University of North Dakota, 1969-70.

Associate Professor of Education, University of North Dakota, 1967-

Director, Bureau of Education Research and Services and Associate Professor of Education, University of North Dakota, 1966-69.

Director, Educational Research Training Program, University of North Dakota, 1966-

Assistant Research Professor, Center for Research in Vocational and Technical Education, University of North Dakota, 1965-66.

Math-Physics teacher, Blue River, Wisconsin High School, 1963-64.

Selected Publications and Honors

"An Evaluation of the Educational Technology Dissemination Project Conducted by the Colorado State Department of Education in Selected Colorado High Schools," Bureau of Research Services, Colorado State College, June, 1966.

"What is New in Rural Education," The College of Education Record, 1967.

"Teachers Lack of Familiarity with Research Techniques as a Problem for Effective Research Dissemination," (paper for 1967 American Educational Research Association Convention).

Local School Expenditures and Educational Quality: A Correlation Analysis, American Journal of Agricultural Economics, December, 1969.

KEITH R. STAMM
(Assistant Professor, Communications)

Education	Degree	Year	Major
University of Wisconsin	B.S.	1963	
University of Wisconsin	M.S.	1964	
University of Wisconsin	Ph.D.	1968	

Recent Work Experience

Instructor, UW, 1964-68, Dept. Agricultural Journ.

Assistant Professor and Statwide Information Director, University of Alaska, 1968-69 Co-op

Taught Agr. Comm. and Innovation, UW, 1966-68; Comm. Theory and Methodology, University of North Dakota, 1969-70

Selected Publications and Honors

Use of Herbicides in Forestry and Game Management, University of Wisconsin, 1963, 97. pp.

"Experiments in Cognitive Discrepancies and Communication," Journalism Quarterly, Vol. 43, No. 4, pp. 762-765.

"Rationality of Opinion on a Controversy in Conversation," Journalism Quarterly, Vol. 43, No. 4, pp. 762-765.

"Two Orientations to Scarcity: A Communication Study," Environmental Education, Summer, 1970.

"Communication and polarization during a campus strike," Public Opinion Quarterly, in press.

"Selective Exposure by Criterion Discrimination and Conflict," Paper presented to the AEJ, T & M Division, Boulder, Colorado, 1967.

"Selective Exposure by Interest & Degree of Conflict," Paper presented to the AEJ, T & M Division, Lawrence, Kansas, 1968.

HARVEY K. JACOBSON
(Associate Professor, Communications; Director of Communication Research Center; Director of University Relations)

Education	Degree	Year	Major
University of N. Dakota	B.A.	1952	
University of N. Dakota	M.A.	1956	
University of Wisconsin	Ph.D.	1967	

Recent Work Experience

Director of News and Public Information, University of North Dakota, 1956-68

Director, University Relations, University of North Dakota, 1968--

Assistant Professor, Journalism, 1963-68

Associate Professor, 1968--

Selected Publications and Honors

Jacobson, H. K., "The Sources and Subject Matter of Papers in the Journal of Educational Sociology," The Journal of Educational Sociology (Nov., 1962) 36:3, 97-107.

Jacobson, H. K., "Engineering Institutes: Report on a Survey," NUEA Spectator (Feb. - March, 1963), 28:3, 16-17.

Jacobson, H. K., "Research Report: Newsweekly Education Reporting," College and University Journal, (Spring 1964), 3:2, 44-48.

Jacobson, H. K., "The Credibility of Three Mass Media as Information Sources," unpublished Ph.D. dissertation, University of Wisconsin, 1967.

Jacobson, H. K., "Mass Media Believability: a Study of Receiver Judgements," Journalism Quarterly (Spring 1969), 37:2, 5-6.

RONALD T. JOHNSON
(Asssociate Professor, Sociology)

Education	Degree	Year	Major
Michigan State University	B.A.	1960	
Penn. State University	M.S.	1962	
University of Wisconsin	Ph.D.	1966	

Recent Work Experience

Assistant professor, University of North Dakota, 1965

Selected Publications and Honors

Outmigration from North Dakota, with Kent J. Johnson, Center for the Study of Social and Cultural Change, University of North Dakota, 1968.

DONALD F. SCHWARTZ
(Acting Chairman of Social and Behavioral Sciences, North Dakota State University)

Education	Degree	Year	Major
North Dakota St. Univ.	B.S.		
North Dakota St. Univ.	M.S.		
Michigan State University	Ph.D.	1968	

Recent Work Experience

Associate Professor of Communication, North Dakota State

Selected Publications and Honors

Co-author with **Nan** Lin, Donald Leu and Everett M. Rogers: Diffusion of Innovation in Three Michigan High Schools: Institution Building Through Change (1966).

Co-author of monograph:

Diffusion of Innovations: Educational Change in Thai Government Secondary Schools (March 1969)

HERBERT STRENTZ
(Chairman and Assistant Professor of Journalism)

Education	Degree	Year	Major
Fresno State College	B.A.	1960	
Syracuse University	M.A.	1964	
Northwestern University	Ph.D.	1970	

Recent Work Experience

Reporter, copy editor, The Fresno Bee, 1959-1963 and summer work

Reporter, wire editor, The Associated Press, Albany, N. Y. 1964-1965.

Instructor, Bakersfield (Cal.) College, 1966-67

Assistant Professor, University of Kentucky, 1968-69

Research Associate, University of Colorado, UFO Project, 1967.

Selected Publications and Honors

"Sooing Saucers" Columbia Journalism Review, Fall 1966, Vol. v, No. 3, pp. 23-25.

W. BARNETT PEARCE
(Assistant Professor, Speech and Journalism)

Education	Degree	Year	Major
Carson-Newman College	B.A.	1965	
Ohio University	M.A.	1968	
Ohio University	Ph.D.	1969	

Recent Work Experience

Selected Publications and Honors

With R. F. Conklin and others, "A Bibliography of Argumentation and Debate: 1967" Journal of the American Forensic Association.

"Communication the Reasons for Decision by the Ballot," Journal of the American Forensics Association, VII (Spring, 1969).

"The Effect of Vocal Cues on Attitude Change and Credibility," Ph.D. dissertation, 1969.

"Studies in Vocalic Communication," paper presented at the annual meeting of International Communication Association, Minneapolis, May 6-9, 1970.

JOHN E. BOWES
(Assistant Professor, Journalism Department)

Education	Degree	Year	Major
Hamilton College	A.B.	1964	
Syracuse University	M.S.	1965	
Michigan State Univ.	PH.D.	1970 (Expected)	

Recent Work Experience

Research Associate, Science Research Association, 1963-65 (summers)

Research Assistant, Syracuse University, 1964-65

Research Assistant, Michigan State University, 1966-69

Assistant to the Director, Information Services National Assessment of Educational Progress, 1969-70

Assistant Professor, University of North Dakota, 1970

Selected Publications and Honors

Greenberg, Bradley S. and John Bowes. "Dimensions of Emphatic Judgment of Clients by Counselors." Journal of Counseling Psychology. V. 16, No. 4, 1969, pp. 303-308.

Greenberg, Bradley S. and Brenda Davin with John Bowes and Joseph Dominick Reaching the Urban Poor Through Mass Communication (New York: Praeger) release date: 9/70.

Greenberg, Bradley S. and John Bowes. "A Comparison of Emphatic Judgment Dimensions Used by Expert and Novice Counselors." Chapter VI of Studies on Human Interaction: Interpersonal Process Recall Simulated by Videotape. (Norman Kagan and David Krathwohl Eds.) Educational Publishing Services, Michigan State University, 1967.

g. References

1. Rogers, Everett M. Diffusion of Innovations (New York, Free Press, 1965).

2. Havelock, Ronald G. Overview of the Training Program, 1970.

3. Hutchins, Robert, Education and the Socratic Dialogue in The Human Dialogue, Matson, F. W. and Montague, Ashley, (New York: The Free Press, 1967).

4. Bernard Berelson and Gary A Steiner, Human Behavior: An Inventory of Scientific Findings (New York: Harcourt, Brace and World, 1964), Chapter 13.

5. Joseph T. Klapper, What We Know About the Effects of Mass Communication: The Brink of Hope, POQ, Winter 1957-58, pp. 451-74.

6. Bauer, Raymond, and Clair Zimmerman, The Effect of an Audience Upon What is Remembered, POQ, 20:238-248 (Spring, 1956).

7. Carter, R. F., On Defining Communication, Human Communication Theory Building, National Society for the Study of Communication, Chicago, Illinois, 1966.

8. Carter, op. cit.

9. Carter, R. F., Communication and Affective Relations, Journal Quarterly, Vol. 42, No. 2 (Spring, 1965).

10. Chaffee, S. and Jack McLeod, Sensitization in Panel Design: A Coorientational Experiment, Journal Quarterly, Vol. 45 No. 4 (Winter, 1968).

11. Chaffee, S., McLeod, J. and Jose Guerrero, Origins and Implications of the Coorientational Approach in Communication Research, Association for Education in Journalism, 1970.

12. Tannenbaum, Percy, Communication of Science Information, Science, 140:581-86 (May 10, 1963).

13. Martin, R. K., O'Keefe, G. J. and Oguz Nayman, Newspaper editors and Their Readers: A Coorientational Approach, Association for Education in Journalism, 1970.

14. MacLeon, M. S., Systems of News Communication, in Lee Thayer, ed. Communication. (Springfield: Charles C. Thomas, 1967).

15. Carter, op. cit., on defining communication.

16. Rogers, Everett M., The Communication of Innovations in a Complex Institution, Educational Record 49:67-77, Winter, 1968.

17. Havelock, Ronald G. A Guide to Innovation in Education (Ann Arbor, Institute for Social Research, 1970).

PART III

7. NEW MEXICO STATE UNIVERSITY (DEVELOPMENT)

7. New Mexico State University — Development's Contribution in the Production of Educational Resource Agents

a. Introduction

For a number of decades educational research and technology has been criticized for its lack of producing materials and programs which had relevance for the educational practitioner. For the majority of administrators and teachers it has little meaning or utility. In the past few years changes have taken place. The first is that much more of the research is becoming increasingly relevant, and second the structure of education has been altered for organization to be inserted which has the major responsibility of development. Existing organizations have also recognized this responsibility and are trying to help fill the gap. This is especially true with the state departments of education in various states. One of the major problems they face is that of adequate trained personnel. There is a major requirement not only for preservice training programs for such persons but a greater need for inservice programs for those persons already in existing positions which can bring about more immediate systematic change in the educational systems.

New Mexico State University's (NMSU) training theme "development" requires the component contributions of Northwest Regional Laboratory's, "Trends in Rural Education"; Tuskegee's "Problem Solving"; the University of North Dakota's "Diffusion" and NFIRE's "Resource Consultant Service". The sub-program provides a necessary conceptual base upon which NMSU might build.

Educational development is not an established or settled field however, where personnel can be neatly trained to fit existing slots. Those persons trained will be pioneers and instrumental in building programs in the area of educational development. It will be especially important that they have some understanding of the populations for which they will be developing programs. This is especially true for culturally limited minority people who in the past have not been ab le to take adequate advantage of our existing educational structure.

Richard Schutz (1970) strongly emphasized the fact that development is too complex a process for a single person to be a "developer of all things." The developer is part of a group but has his individual responsibilities. As each individual is part of the group, however, he needs an understanding of the development process and his role as a part in the over-all structure. Schutz quotes James Kuhn in describing types of persons in the field of development.

> "James Kuhn (1966) has identified three 'axes of flexibility' that are particularly important for personnel working in a new technology. 'The first axis is followed by those who can...join diverse facts and theories to produce viable procedures for implementation. These men are not merely thinkers and theoreticians, but translators of concepts into at least the outlines of practical tools and techniques.' This is the kind of flexibility initiators of technological development from formulation to full-scale product must possess.
>
> The second axis of flexibility involves staying within a single stage of development, but moving from one product development to another. This type of person 'exploits the new and changing opportunities provided by the conceptualizers and initiators as new technologies supplement the old. This kind of flexibility must be developed if men are to remain productive during their work lives.'

> 'Men with flexibility along the third axis are most rare. This axis is parallel to the flow of a technological development.' That is, a man flexible in this manner can shift his activity as the development progresses from concept, to design, to prototype, to product. 'Rare is the man who can perform research or help in the initiation of a new technique, then aid in the development and production, following which he directs his talent to marketing, or to the application of the final product to regular use. Yet, no man is more welcome...or more needed."

This program will concentrate on training those persons operating in the second axis of responsibility. These will be those persons in the state department of education responsible for developing "educational packages" for use in particular subject areas within their state. This person must be able to communicate not only with the diffusion person or educational change agent but also the researchers. In addition, he must as was previously mentioned, be aware of the needs of his ultimate client, the learner.

b. Educational Developer

Product development has only very recently emerged as an area of specialization within the schools. The driving forces behind this movement have been the Federally funded Educational Research and Development Centers in 1964 and the Regional Educational Laboratories in 1965.

As Richard Schutz inferred in his paper, "Research, Development, and Improvement in Education," educational research and product development may be viewed as integrally related, however, there are some distinctive differences in emphases and procedures. For instance, educational research is oriented toward acquiring new knowledge. Once the research has been completed, the analysis

usually leads to other areas of research - leaving little time or interest to follow through and observe the effects of the new knowledge when applied in a real situation. On the other hand, educational product development is user oriented. Given an educational problem the educational developer will go through the developmental process; the culmination of which is a product and its employment; either methods and/or materials designed to provide a solution to the given problem.

As previously mentioned, development as opposed to research is a group process. No single individual could be expected to become proficient in each of the many areas necessary inherent in the development process. This process is focused around the design, testing, and improvement of prototypes and processes. It may be viewed basically as an engineering process through which products, techniques, and practices designed for specific purposes are developed and packaged for distribution.

In view of the complexity of the developmental process and the differing technical skills required, it is an impossible task to devise training systems that will produce a "developer" in the same sense as producing a "researcher." It is feasible, however, to produce a person with the capabilities necessary to <u>direct</u> the product development process. In order to perform this function with a high degree of efficiency the person must thoroughly know the steps involved in the process and should have enough specific knowledge to act as a backup in cases where staffs are small or are depleted for some reason or another.

Accepting the fact that a "product developer" is a team rather than an individual, this phase of the proposal will concentrate on the training of lead officers of product development teams at the state department levels, trained specifically to work with diffusers at the regional level and problem solvers at the local level. With this in mind, the job description of the expected product from the training sequence is as follows:

Work Performed

1. Diagnose problem areas in the educative process that do not meet the criteria of the stated goals and objectives of the state.

2. Analyzes the situation in terms of resources presently available and which can be secured elsewhere.

3. Forms appropriate developmental teams - plans strategy necessary to provide a solution and/or alternate solutions to given problems. Assigns specific tasks to members of the team.

4. Lays groundwork for conducting both pilot and field test of prototype materials. Investigates possibilities of testing by means of simulation when large scale testing appears necessary.

5. Interprets the objectives of the completed product to diffusers of the information. Diffusers may also serve as part of the development team.

6. Supervises follow-up studies to ensure that materials and/or methods are being used as designed.

c. Basic Terminal Objectives of the Program

At completion of the project each of the State Department personnel in project development should have the following abilities:

1. Must be thoroughly familiar with the product development process.

2. Must be able to analyze educational situations in terms of present and anticipated problem areas, considering political-economic climate of the school district, objectives of the State Department of Education and needs of the community.

3. Must be able to read and comprehend research documents and consequently be able to translate into lay terms the meaning of research results.

4. Must be able to communicate with a broad spectrum of people - from the researcher to the interested parent.

5. Must be familiar with sources of information and human expertise directly related to the problem at hand in order to consider all alternative solutions. This would include knowledge of services and functions offered by national, regional, state and local information centers, awareness of resources through the Federal government, knowledge of the location and availability of specialists to use as consultants when appropriate.

6. Must be able to synthesize previous work in the related area and to conceptualize alternate solutions to solving problems. Emphasis will be placed on utilizing existing resources in different ways in order to produce a superior product.

7. Must be able to apply the systems approach to solving educational problems and maintain a human relations to behavioral change.

8. Must be able to effectively create and follow through with a plan of evaluation that allows for continuous upgrading of the product created.

9. Must be able to incorporate into the design of the product features that will be compatible with the long range goals of the state and that can be modified when and if the need arises.

10. Must have an overall commitment to the improvement of the educative process.

It is readily understood that experts will not be created that are extremely proficient in each of the basic qualifications in this short period of time. The degree of competency will depend

on a large part to the expertise with which the individual possess when entering the program. The more experience he has in each of the areas, the more progress that can be made.

A product development team operating under a well-trained director can provide a mechanism whereby many educational "ills" can be cured, or at least partially alleviated. No guarantees can be made as to the final outcome. The remedies that have been presceibed by the team will hopefully be the best available under the circumstances but they will still be working with human beings - with all the complexities associated with them.

d. Training Procedure

There will be three phases in the formal program of training which will include experiences in product development. The first will be the core course which will introduce the basis information on development, diffusion and problem solving and their relationships. This will be given to all groups by state teams. The second will be the general course on development which will be given to each of the three groups, the state department of education persons, the intermediate or diffusion personnel and the local or problem solving personnel. This will have those persons from each level attending with similar personnel from the other two states. The third phase will be that specific training for those persons clearly with product development.

Schedule for Product Development Training

Pre-Spring 1971 - One week orientation for key staff, Tuskegee.

Spring 1971 - Two week workshop for core courses. This will include all persons from New Mexico at the state, intermediate and local levels.

Summer 1971 - (1) Three week workshop. Product development for the six state department persons from the three states who will be specializing in product development.

(2) Four weeks internship experience in school districts with large numbers of Mexican Americans or Indians.

(3) Three day post internship workshop.

Fall 1971 - One week advanced course in product development.

Fall 1971-Spring 1972 - Development of projects with New Mexico trainees for diffusion within the state. Much of the development work would take place this year.

Summer 1972 - (1) Two week workshop. General course in product development for the persons from the intermediate or diffusion levels from each of the three states.

(2) Four week internship with the same persons in schools with large numbers of Mexican Americans and Indians.

(3) Three day post internship workshop.

Fall 1972-Spring 1973 - New Mexico team would complete development of product and introduce at the intermediate and local level.

Summer 1973 - (1) Two week workshop for general course in product development for those persons in the problem solving group from the local level.

(2) Four week internship for the local persons in districts with large numbers of Mexican Americans and Indians.

(3) Three day post internship workshop.

Fall 1973 - Follow-up with New Mexico teams adoption of product within the state.

COURSE CONTENT

Core Course (See other institutions)

General Course / Product Development

Instructor Objectives.

Before beginning the instructional phase, each Instructional Director shall be required to do the following in regard to that portion of curriculum content he is responsible for:

(1) List all tasks that might be included in the job functions he is directing.

(2) List the steps involved in each of the tasks the person does when performing. The Instructional Director will be guided in referring to Chapter Three of Developing Vocational Instruction by Robert F. Mager and Kenneth M. Beach, Jr. (Fearon Press, Palto Alto, California 1967, pp. 10-24) when performing this function.

(3) Define the minimum acceptable behavior for each task.

(4) Design the most effective way(s) to learn said task(s).

(5) Insure that the tasks will have been learned by selecting careful methods for scrutinizing student behavior in task performance (parts of the performance may necessarily be performed in a simulated environment) and allowing for additional instructional process until the minimun acceptable behavior has been attained.

General Course Content

The content of this course will involve the lower skills in cognitive domain, i.e., the recall of specifics and universals, the recall of methods and processes, and the recall of a pattern, structure or setting. It will include the knowledge of specifics,

knowledge of classification and categories, and knowledge of ways and means of dealing with specifics (See Bloom's Taxonomy of Educational Objectives for a complete definition of the above).

Specific Areas of Content

(1) Familiarity with the product development process.

a. Formulation

b. Instructional specifications

c. Development of evaluation instruments

d. Development of learning materials

e. Pilot test of prototype materials

f. Learning materials revision

g. Product integration or packaging

h. Product field test stage

i. Product revision

j. Product review and process evaluation.

(2) An awareness of political influences in educational change.

a. Power set

b. Power groupings

c. Barriers to change

(3) Knowledge of communications.

a. Transmitter

b. Receiver

c. Non-verbal communications

d. Written communications

e. Verbal communications

f. Group process

(4) Familiarity with information and resources.

a. Human resources

b. Physical resources

c. Information centers (national, regional, state, local)

(5) Knowledge of systems analysis.

(6) Awareness of evaluation processes.

a. Evaluation models

b. Boundaries within which one operates

(7) Understand organizational long-range goals in the design of products.

Advanced Course Content

Using the "Spiral" concept, the above lower cognitive skills will be amplified to include interpretation, extrapolation application, analysis, synthesis and evaluation (See Bloom's Taxonomy of Educational Objectives for a precise definition of these terms). In addition, the following specific areas will be covered:

(1) Research documents

a. Comprehension

b. Translation

c. Implementation into product design

d. Interpretation

e. Implementation of resource utilization

f. Synthesis and conceptualization into a workable solution.

(2) Create a plan of evaluation for developed product.

(3) Demonstrate through application, a commitment to the educative process.

New Mexico State Training Schedule
Summary Product Development

Course	Duration	Content	Partici
"Core:	10 Mondays, possibly 5 Fridays and Saturdays	General course in development, diffusion & problem solving and the interrelationship. To be given at all three institutions, same content.	All New Mex State Depar tion, Inter
"Product Develop-ment"	1 week (consecutive days) workshop	General course in product development procedures at State Department of Education, Inter-mediate & Local levels and Regional Laboratories.	All trainee function
"Advanced Product Develop-ment	2 weeks	Specific course in product development. Theoretical aspects, processes, and super-vision of product development.	All State Education

Training Schedule
Development

Participants	Major Instructional Responsibilities	Time Sequence
All New Mexico trainees State Department of Education, Intermediate & Local	Faculty at New Mexico State University	Spring 1971
All trainees grouped by function	Team, ERIC/CRESS, New Mexico State University, State Department of Education, Region XIX, Southwestern Cooperative Educational Laboratory	Summer 1971 State Dept. of Education 1972 - Intermediate 1973 - Local
All State Department of Education level people	Team and specialists in product development processes	Winter 1972

SUGGESTED CRITERIA FOR SELECTION OF STATE DEPARTMENT PARTICIPANTS

The method of selecting the participants from the respective state departments of education will be to contact the State Superintendent of Instruction and have him appoint the two people. Due to the responsbility and magnitude of the task these people will be expected to perform, it is strongly recommended that the State Superintendent take the following points into consideration when making the appointments:

1. The appointees be at a level of responsibility that affects final decisions in the development of products within the state.

2. The appointees will have been working in this capacity for at least twelve months.

3. A reasonable assurance that these persons will continue to work in this capacity throughout the duration of the program.

4. That at least one alternate be appointed and that the person so designated be continually kept up to date on the progress being made.

New Mexico State University Personnel Inventory

Local Director

EVERETT D. EDINGTON
(Director, ERIC Clearinghouse for Rural Education and Small Schools)

Education	Degree	Year	Major
Pennsylvania State Univ.	Ed.D	1961	
Univesity of Arizona	M.Ag.Ed.	1958	
Colorado State University	Teaching Cert.	1955	
University of Arizona	B.S.	1951	

Recent Work Experience

Director, ERIC Clearinghouse for Rural Education and Small Schools

Associate Professor, Educational Administration

Director of California Research Coordinating Unit for Vocational and Technical Education

Director of Vocational-Technical Education for Solane County, Fairfield, California

Associate Professor of Agriculture Education, Oklahoma State University

Research and teaching assistant, Pennsylvania State University

Vocational Agriculture teacher in Arizona

Selected Publications and Honors

Edington, Ev.D., "Academic Achievement of American Indian Students--Review of Recent Research," Journal of American Indian Education, May, 1969.

Edington, Ev.D., "Recruitment of Spanish-Speaking Students into Higher Education," California State College, Long Beach, California, May, 1969.

Edington, Ev.D., "Cooperative Training in Non-Farm Agricultural Occupations," AVA Journal, November, 1965.

Edington, Ev.D., "An Evaluation Study of the Jimma Agricultural-Technical High School in Ethiopia," Oklahoma State Univ., Research Foundation, 1965.

New Mexico Team Leader

ALFRED P. WILSON
(Assistant Professor, Educational Administration)

Education	Degree	Year	Major
Utah State University	Ed.D	1969	Educ. Adm.
Utah State University	M.Ed.	1965	Educ. Adm.
Utah State University	B.S.	1961	Elem. Educ.

Recent Work Experience

Teaching Assistant, Utah State University, 1966-1969

Teacher, Clark County, Nevada, 1965-1966

Principal, Tooele, Utah, 1961-1962

Selected Publications and Honors

Wilson, Alfred P., Research Project Investigator, "Personality Characteristics of Superintendents in Relations to the Willingness to Accept Innovation in Education," USOE, contract, Washington, D. C., 1968.

Wilson, Alfred P., "The History and Goals of the American Federation of Teachers," Master's Thesis, Utah State University, 1965

Wilson, Alfred P., "Professionalism and the American Federation of Teachers," Utah Academy of Science, Arts, and Letters, 1967.

Wilson, Alfred P., "Individualized In-Service Training," Utah Academy of Science, Arts & Letters.

Wilson, Alfred P., "Technology in Education, "Utha Academy of Science, Arts, and Letters.

Consultant

DAVID C. HALL
(Assistant Director ERIC)

Education	Degree	Year	Major
New Mexico State University	Ed.D	1969	Educ. Research
New Mexico State University	M.A.	1967	Educ. Adm.
West Texas State University	B.S.	1957	Math. & Physics

Recent Work Experience

Assistant Director, ERIC Clearinghouse on Rural Education and Small Schools, New Mexico State University, 1966-date.

Physicist with Data Reducation Division, Physical Science Laboratory, New Mexico State University, 1957-1966.

Consultant, White Sands Missile Range, White Sands, New Mexico

Selected Publications and Honors

A classified publications related to data reduction techniques in missile and space industry.

Consultant

JOHN E. UXER
(Executive Director, Region XIX Education Service Center)

Education	Degree	Year	Major
Nex Mexico State University	B. S.	1949	Agriculture
New Mexico State University	M.A.	1951	Education
New Mexico State University	Educ. Specialist	1962	Guidance and Counseling

Recent Work Experience

Off campus and resident courses taught at two universities.

Director and Coordinator of off-campus and extension courses for the Artisia, New Mexico Public Schools.

Teacher in House, New Mexico.

Teacher in Carlsbad, New Mexico.

Teacher in Artesia, New Mexico

Director of Guidance and Counseling, Artesia, New Mexico.

Director of Instruction, Artesia, New Mexico.

Superintendent, Jal, New Mexico.

Instructor, U. S. Army Infantry School, Fort Benning, Ga.

Research Assistant, New Mexico State University.

Director, Legislature Finance Committee, New Mexico Legislature.

Selected Publications and Honors

Various, the latest ones being "Perceptions of Graduates in Teacher Education Concerning Research," Improving College and University Teaching, Spring, 1968; an article on driver education in May 1970 issue of Texas Outlook; and another article has been accepted for publication by School Management.

Package Development

CHRIS BUETHE
(Associate Professor, Elementary and Secondary Education
New Mexico State University)

Education	Degree	Year	Major
University of Nebraska	Ed.D	1965	Secondary Curriculum
University of Colorado	M.Ed.	1957	Physical science
Wayne State University	B.A.	1951	Physical science and English

Recent Work Experience

Secondary teaching, 1951-60.

Assistant Professor and campus high school principal, Peru State College, Nebraska 1960-63.

Instructor and supervisor, campus high school, University of Nebraska 1963-65.

Associate Professor, Ferris State College, Michigan 1965-67.

Associate Professor, New Mexico State College, 1967 to date.

Guest Professor, Miami University, Oxford, Ohio 1967.

Selected Publications and Honors

"A Curriculum of Value," Educational Leadership, October 1968.

"Dimensional Analysis in High School Physics," School Science and Mathematics, November, 1968.

"Testing, Testing...1,2,3," Clearing House, May 1969.

"Square Science," Science and Children, December 1969.

Potential Research and Development Residuals from Development Emphasis

Forth-two months of training and participant field supervision activity will generate a number of possible research residuals worthy of further study and development. Some potentials are:

(1) Organizational climates conducive to the acceptance of development and change.

(2) Patterns of rural school organization conducive to development and change acceptance.

(3) Threat reduction measures school districts might take when faced with change.

(4) Characteristics of the "optimal" package in development activity.

(5) Differential acceptance rates of development activity according to culturally limited minority origins.

PART IV

BUDGETS

A. BUDGET EXPLANATION

B. TRAINING PROGRAM COMPONENTS' BUDGETS

1. Consortium Management Budget

2. National Federation for the Improvement of Rural Education Budget

3. Orientation Workshop Budget

4. Short Term Orientation Course for Trainee's Budget (Trainee Stipends and Travel)

5. Tuskegee Institute Budget (Problem Solving)

6. University of North Dakota Budget (Diffusion)

7. New Mexico State University (Development)

8. Master Budget

Budgets Deleted

A. BUDGET EXPLANATION

Guidelines for preparing the final draft of this proposal indicated that each of the seven parts of the training program operation in Part III be paralleled by budget sections in Part IV. As a perusal of Parts III and IV reveal, this parallelism has been effected.

The thinking behind this request for parallel training programs and budget sections is that such an arrangement provides for ease in relating institutional training program activity to institutional budget allocation.

APPENDIX

Statements of Commitment From Participants In The Training Consortium

MEMORANDUM

November 4, 1970

TO: DR. EDWARD KRAHMER
EDUCATION

FROM: W. E. KOENKER WEK

This memorandum is to indicate to you the University's strong interest in an endorsement of your proposal for a training program for diffusion personnel in rural/minority/disadvantaged education. We understand that the focus of our participation in North Dakota would be on Indian education. I think that we have some very competent people in the area of communications, education, and rural sociology who would be able to make a distinct contribution to this very significant national effort.

I would, however, like to see a draft copy of the proposal for the operational phase of this program when it becomes available.

dls

Northwest
Regional
Educational
Laboratory

400 Lindsay Building • 710 S.W. Second Avenue
Portland, Oregon 97204 • Telephone (503) 224-3650

November 3, 1970

Dr. Ed Krahmer
Southern Association of Colleges and Schools
795 Peachtree Street, N. E.
Atlanta, Georgia 30308

Dear Ed:

The NWREL is continuing its developmental work on improving education in small schools of the region. As you know, we have had field-based programs that have been undergoing developmental testing and evaluation in many sites throughout the five northwest states. Our Laboratory is becoming increasingly skilled in the planning and implementation of such activities.

We would be pleased, therefore, to provide a week-long workshop on the Resources Available in the Product Development for the staff of the NFIRE Project. Details of the workshop will be worked out with you and/or others you might designate to insure that all areas of interest will be adequately covered during the training.

We are anxious to be involved in your project since it holds much promise for improving educational opportunities for youth in rural areas of the United States.

Sincerely yours,

Ray Jongeward

RJ:fc

V. L. EIDERLY
DEPUTY

R. W. DANGS
ADMINISTRATIVE ASST.

THE STATE OF NORTH DAKOTA

Department of Public Instruction

M. F. PETERSON, SUPERINTENDENT
BISMARCK, NORTH DAKOTA 58501

RICHARD K. KLEIN
ASSISTANT

H. J. SNORTLAND
ASSISTANT

October 23, 1970

Dr. Ed Krahmer
Socio Professor of Education
University of North Dakota
University Station
Grand Forks, North Dakota 58201

Dear Ed:

This letter serves to inform you and whomever it may concern that the North Dakota Department of Public Instruction is interested in serving as one of the cooperating states for the diffusion training program.

It is my understanding that the personnel trained in this program will work at the state, intermediate, and local levels. The Department of Public Instruction's role will be to directly assign two staff members to participate in the training program and, indirectly, to assist in the identification of four intermediate and ten local sites for involvement in the program. Presumably this is voluntary.

It is further my understanding that these people will receive extensive summer training (available for credit on an optional basis). The State level people will participate in a three-week workshop while the intermediate and local people will also participate in a four-week internship involving different minority cultures frequently found in rural settings. During the winter months a follow-up workshop of one to two weeks' duration will also be conducted. All expenses for participant travel, tuition, released time, and/or stipends will be covered as required.

Finally, it is my understanding that the sixteen people participating in this training program will be expected to operate as a team during the two school years (1971-72 and 1972-73) intervening between the three summer sessions of this program. This means that the Department of Public Instruction will identify staff members who presently have or will have by 1971-72 field responsibilities. Also, that the intermediate and local sites

"BUY NORTH DAKOTA PRODUCTS"

will be those who will free their people for one or more hours per day for involvement in team activities. Team activities will consist of educational improvement efforts of joint interest and concern to the State, intermediate and local agencies. The team activities will not be determined by the training institutions; but technical assistance will be available on demand from these institutions.

This program has considerable potential for many State Departmental efforts. For example, we are required to disseminate extensively the results of the various Federal programs for potential adoption or adaptation by schools throughout the State. The team has considerable possibilities for improving this dissemination process.

I will await your notification as to whether this project has been funded. Assuming it is funded by February, 1971, it should be possible to identify participants in advance of a later April introductory workshop.

Yours sincerely,

DEPARTMENT OF PUBLIC INSTRUCTION

M. F. PETERSON, Superintendent

MFP:cba
cc: Mr. Vern Eberly
Dr. Lowell Jensen

Telegram

:=AB33 MB054 (929)

M BMA009 AH PD=BISMARCK NDAK 8 922A CST

=DR EDWARD KRAHMER, CARE DR JOHN CODWELL, PHONE 404-875-8011= SOUTHERN ASSN OF COLLEGES AND SCHOOLS 795 PEACHTREE ST ATLA:

=THE NORTH DAKOTA DEPARTMENT OF PUBLIC INSTRUCTION WILL GIVE FULL SUPPORT AND COOPERATION TO THE DIFUSION TRAINING PROGRAM. IT WILL CONTRIBUTE MUCH TOWARD CHANGE, INOVATION, AND REFORM IN EDUCATION=

DR LOWELL JENSON NDAK DEPT OF PUBLIC INSTRUCTION.

==DIFUSION.

WU 1201 (R 5-69)

southwestern
cooperative
educational
laboratory

117 richmond drive ne
albuquerque, new mexico 87106
area code 505 265-9561

RECEIVED
SEP 29 1970
NMSU
E.R.I.C.

September 28, 1970

Dr. Everett Edington
ERIC CENTER
New Mexico State University
Las Cruces, New Mexico 88001

Dear Dr. Edington:

This letter confirms our interest in being a part not only of the planning process which you have under way, but also of becoming involved in the implementation of the program you described on the telephone recently.

Our relationship with New Mexico State University and with the personnel there has been excellent and we would hope to continue this kind of relationship through the new arrangement you describe.

Please make certain to include us when we can be helpful.

Sincerely,

Jim Olivero

James L. Olivero
Executive Director

JLO:cec

Telegram

1(938).

===AB14 KA259

K SNA022 JW PDB 8 EXTRA=SANTA FE NMEX 6 917A MST=

DR JOHN CODWELL, DEPT DIVN SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS= 795 PEACH ST NORTHEAST, SUITE 592 ATLA=

THE DIVISION OF RESEARCH OF THE STATE DEPARTMENT OF EDUCATION WILL COOPERATE FULLY WITH THE PRODUCT DEVELOPMENT PROJECT AS OUTLINED BY DOCTOR EDINGTON. THE OUTCOMES ARE CLEARLY STATED AND WILL IMPROVE THE STATE DEPARTMENTVS CAPABILITIES IN THIS AREA=

DR P H BARCK, DIRECTOR RESEARCH AND DEVELOPMENT STATE DEPT OF EDUCATION SANTA FE NMEX=

WU 1201 (R 5-69)

Telegram

(902)=

===AB13 NSB019

NS TKA005 FS PDF=TUSKEGEE INST ALA 12 857ACST =

:DR JOHN E CALDWELL TEL 875 8011 = 12 10 17

SOUTHERN ASSOIATION OF COLLEGES AND SCHOOLS

795 PEACHTREE ST NORTHWEST ATLA

:TUSKEGEE INSTITUTE FULLY SUPPORTS THE TRAINING OF PERSONNEL AND EDUCATION, DIFFUSION, PRODUCT DEVELOPMNT AND RESEARCH. YOU CAN BE ASSURED THAT = THE INSTITUTION WILL GIVE OF ITS BEST IN EXECUTING THIS PROJECT ONCE IT HAS BEEN APPROVED BY THE US OFFICE OF EDUCATION =

DR E L JACKSON VICE PRES OF ACADEMIC AFFAIRS

TUSKEGEE INST ALA =

WU 1201 (R 5-69)

EXECUTIVE OE FORMS 6022

1. Tuskegee Institute -- Consortium Coordination

2. National Federation for the Improvement of Rural Education -- Coordination of Educational Laboratories and Consultative Services

3. Tuskegee Institute -- Problem Solving

4. University of North Dakota -- Diffusion

5. New Mexico State University -- Development

OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

APPLICATION FOR RESEARCH SUPPORT

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SECTION I - DESCRIPTIVE DATA

TYPE OF PROPOSAL

NEW (Place an "X" here)	04	X
REVISION OF BUREAU NO.	05	
SUPPL TO CONTRACT NO.	06	
CONT OF CONTRACT NO.	07	

TITLE OF PROPOSAL (200 characters and spaces maximum)

08 National Center for the Training of Educational
09 Resource Agents to Serve Rural Minorities:
10 Project Management
11

		(Mo., Day, Yr.)			(Mo., Day, Yr.)
PROPOSED STARTING DATE	15	2/1/71	42 months total	PROPOSED ENDING DATE 16	6/30/74

PROJECT DIRECTOR

NAME (Last, first, MI)	19	Pinnock, Theodore J.		
TITLE OF POSITION	20	Director, Resource Development Center		
HIGHEST DEGREE	21	Ph.D.	BIRTH DATE 22	3/23/28
TITLE OF ADDRESS	23	Dr.	SOCIAL SECURITY NO. 24	573-54-5672

APPLICANT INSTITUTION

NAME	27	Tuskegee Institute		
MAJOR SUBDIVISION	28	Resource Development Center		
MINOR SUBDIVISION	29			
ADDRESS	30			
CITY	31	Tuskegee Institute	STATE 32	Ala.
TELEPHONE (Include Area Code)	33	(205) 727-8341	ZIP CODE 34	36088
COUNTY	35	Macon	CONGRESSIONAL DISTRICT 36	III

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WHERE RESEARCH TO BE CONDUCTED (If different from above)

INSTITUTION	40	Tuskegee, See related & included		
ADDRESS	41	budget's		
CITY	42		STATE 43	
TELEPHONE (Include Area Code)	44	SAME	ZIP CODE 45	
COUNTY	46		CONGRESSIONAL DISTRICT 47	

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SIGNATURE OF PROJECT DIRECTOR — DATE

OFFICIAL SIGNING FOR INSTITUTION

NAME (Last, First, MI)	12	Foster, L. H., Ph.D.
TITLE	13	President

SIGNATURE — DATE

OTHER KEY PERSONS

	NAME (Last, First, Middle Initial)	BIRTH DATE	SOCIAL SECURITY NUMBER
48	Pinnock, Theodore J., Ph.D.	3 23 28	573-54-5672
48			
48			
48			

OE FORM 6022, 8/68

TYPE OF ORGANIZATION (Check appropriate one)

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Tuskegee Institute (Management)

	PRIVATE INSTITUTION		PUBLIC INSTITUTION			
[ ] INDIVIDUAL	[ ] PROFIT	[X] NON-PROFIT	[ ] FEDERAL	[ ] LOCAL	[ ] STATE	[ ] OTHER

NAME OF US OE OFFICIAL PREVIOUSLY CONTACTED ABOUT THIS APPLICATION, IF ANY

Dr.John Egermier and Dr. Lee Burchinal

PROJECT DIRECTOR'S TIME COMMITMENT IF PROJECT IS FUNDED	PERCENT OF TIME	ENDING DATE	FUNDING AGENCY
TEACHING DUTIES *(If none, leave blank)*			
ADMINISTRATIVE DUTIES			
RESEARCH IN PROGRESS. TITLE OF PROJECT			
1.			
2.			
3.			
4.			
CONSULTANT SERVICES			
TIME PLANNED THIS PROJECT			
OTHER			
TOTAL			

IF YOUR PROPOSAL IS A TRAINING PROJECT, COMPLETE THE FOLLOWING

A. TYPE OF PROPOSAL

[ ] UNDERGRADUATE [X] GRADUATE

[ ] POST DOCTORAL [X] INSTITUTE

[ ] SPECIAL TRAINING PROJECT

[X] PROGRAM DEVELOPMENT

B. INSTITUTIONAL ALLOWANCE

1. BASED ON RATE PER TRAINEE

NUMBER OF TRAINEES	RATE	AMOUNT

2. TOTAL INSTITUTIONAL ALLOWANCE

C. TRAINEE SUPPORT

1. STIPENDS

NUMBER OF TRAINEES	STIPEND RATE	AMOUNT

SUBTOTAL

2. DEPENDENCY ALLOWANCE

NUMBER OF DEPENDENTS	RATE	AMOUNT

SUBTOTAL

3. TRAVEL RELOCATION COSTS

4. TOTAL TRAINEE COSTS

SECTION II– PROJECT COST ESTIMATES

	TOTAL PROJECT COSTS *(Federal)*	
	PERSONNEL SALARIES	
	EMPLOYEE BENEFITS	
	TRAVEL	
	SUPPLIES AND MATERIALS	
	COMMUNICATIONS	
SERVICES	DUPLICATING AND REPRODUCTION	
SERVICES	STATISTICAL	
SERVICES	TESTING	
SERVICES	OTHER (consultants)	
	FINAL REPORT	
	EQUIPMENT	
	TRAINEE COST *(C4 above)*	
	INSTITUTIONAL ALLOWANCE *(B2 above)*	
	OTHER DIRECT (computer tim	
	SUBTOTAL DIRECT COST	
	INDIRECT COSTS	
	TOTAL PROJECT COSTS	

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

BUDGET BUREAU NO. 51-R0694
APPROVAL EXPIRES 1 31 70

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APPLICATION FOR RESEARCH SUPPORT

SECTION I - DESCRIPTIVE DATA

TYPE OF PROPOSAL
- NEW (Place an "X" here) 04: X
- REVISION OF BUREAU NO. 05:
- SUPPL TO CONTRACT NO. 06:
- CONT OF CONTRACT NO. 07:

TITLE OF PROPOSAL (200 characters and spaces maximum)
08: National Center for the Training of Educational
09: Resource Agents to Serve Rural Minorities
10:
11:

PROPOSED STARTING DATE (Mo., Day, Yr.) 15: 2/1/71
PROPOSED ENDING DATE (Mo., Day, Yr.) 16: 6/30/74

PROJECT DIRECTOR
- NAME (Last, first, MI) 19: Codwell, John E. (President)
- TITLE OF POSITION 20: Deputy Dir., So. Assn. of Col. & Schs.
- HIGHEST DEGREE 21: Ph.D.
- BIRTH DATE 22: 11/26/05
- TITLE OF ADDRESS 23: Dr.
- SOCIAL SECURITY NO. 24: 452-64-3441

APPLICANT INSTITUTION
- NAME 27: National Federation For the Improvement
- MAJOR SUBDIVISION 28: of Rural Education (Educational Labora-
- MINOR SUBDIVISION 29: tories - NWREL; SWCEL; SEL; AEL)
- ADDRESS 30: 795 Peachtree St., N. E.
- CITY 31: Atlanta
- STATE 32: Ga.
- TELEPHONE (Include Area Code) 33: (404) 875-8011
- ZIP CODE 34: 30308
- COUNTY 35: Fulton
- CONGRESSIONAL DISTRICT 36:

OE USE ONLY
25

WHERE RESEARCH TO BE CONDUCTED (If different from above)
- INSTITUTION 40: SAME
- ADDRESS 41:
- CITY 42:
- STATE 43:
- TELEPHONE (Include Area Code) 44:
- ZIP CODE 45:
- COUNTY 46:
- CONGRESSIONAL DISTRICT 47:

OE USE ONLY
39

SIGNATURE OF PROJECT DIRECTOR

DATE

OFFICIAL SIGNING FOR INSTITUTION
- NAME (Last, First, MI) 12: Codwell, John E.
- TITLE 13: Deputy Dir., So. Assn. of Col. and Schools

SIGNATURE

DATE

OTHER KEY PERSONS

	NAME (Last, First, Middle Initial)	BIRTH DATE	SOCIAL SECURITY NUMBER
48			
48			
48			
48			

OE FORM 6022, 8/68

TYPE OF ORGANIZATION *(Check appropriate one)*

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49

National Federation for the Improvement of Rural Education

	PRIVATE INSTITUTION		PUBLIC INSTITUTION			
☐ INDIVIDUAL	☐ PROFIT	☒ NON-PROFIT	☐ FEDERAL	☐ LOCAL	☐ STATE	☐ OTHER

NAME OF US OE OFFICIAL PREVIOUSLY CONTACTED ABOUT THIS APPLICATION, IF ANY

Dr. John Egermier and Dr. Lee Burchinal

PROJECT DIRECTOR'S TIME COMMITMENT IF PROJECT IS FUNDED	PERCENT OF TIME	ENDING DATE	FUNDING AGENCY
TEACHING DUTIES *(If none, leave blank)*	0		
ADMINISTRATIVE DUTIES	74		
RESEARCH IN PROGRESS. TITLE OF PROJECT			
1.			
2.			
3.			
4.			
CONSULTANT SERVICES	1		
TIME PLANNED THIS PROJECT	25		
OTHER			
TOTAL	100		

IF YOUR PROPOSAL IS A TRAINING PROJECT, COMPLETE THE FOLLOWING

A. TYPE OF PROPOSAL

☐ UNDERGRADUATE ☐ GRADUATE

☐ POST DOCTORAL ☐ INSTITUTE

☐ SPECIAL TRAINING PROJECT

☐ PROGRAM DEVELOPMENT

B. INSTITUTIONAL ALLOWANCE

1. BASED ON RATE PER TRAINEE

NUMBER OF TRAINEES	RATE	AMOUNT

2. TOTAL INSTITUTIONAL ALLOWANCE

C. TRAINEE SUPPORT

1. STIPENDS

NUMBER OF TRAINEES	STIPEND RATE	AMOUNT
SUBTOTAL		

2. DEPENDENCY ALLOWANCE

NUMBER OF DEPENDENTS	RATE	AMOUNT
SUBTOTAL		

3. TRAVEL RELOCATION COSTS

4. TOTAL TRAINEE COSTS

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	TOTAL PROJECT COSTS *(Federal)*	
PERSONNEL SALARIES		
EMPLOYEE BENEFITS		
TRAVEL		
SUPPLIES AND MATERIALS		
COMMUNICATIONS		
SERVICES: DUPLICATING AND REPRODUCTION		
SERVICES: STATISTICAL		
SERVICES: TESTING		
SERVICES: OTHER (consultants)		
FINAL REPORT		
EQUIPMENT		
TRAINEE COST *(C4 above)*		
INSTITUTIONAL ALLOWANCE *(B2 above)*		
OTHER DIRECT		
SUBTOTAL DIRECT COST		
INDIRECT COSTS		
TOTAL PROJECT COSTS		

CHECK THOSE BOXES WHICH BEST DESCRIBE YOUR PROPOSAL

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68

- [ ] ELEMENTARY EDUCATION
- [ ] SECONDARY EDUCATION
- [ ] HIGHER EDUCATION
- [ ] ADULT OR CONTINUING EDUCATION
- [ ] HANDICAPPED CHILDREN AND YOUTH
- [ ] VOCATIONAL EDUCATION
- [X] EDUCATIONAL RESEARCH AND DEVELOPMENT CENTER
- [ ] REGIONAL EDUCATION LABORATORY
- [ ] LIBRARY OR INFORMATION SCIENCE RESEARCH
- [ ] TRAINING PROGRAM RESEARCH PERSONNEL
- [X] EDUCATION AND RESEARCH INFORMATION GATHERING AND DISSEMINATING
- [X] OTHER *(Specify)* Coordination of Regional Educational Laboratories: (NWREL; SWCEL; SEL; AEL)

SECTION III - ABSTRACT OF PROPOSED RESEARCH ACTIVITY

TITLE OF PROPOSAL

PROJECT DIRECTOR'S NAME

INSTITUTION NAME

ABSTRACT *(This is for inter-governmental distribution. Omit confidential information. 2000 characters and spaces maximum)*

The National Federation for the Improvement of Rural Education will serve as (1) disseminator of information concerning this training design, (2) a resource to the trainee teams during their on-the-job experience, (3) an assistant in extending the personnel searching of the content training institutions to the National level, (4) an assistant in the coordination of research, evaluation, and development activities, and (5) coordinator for the educational laboratories - Northwest Regional Educational Laboratory (Portland, Oregon); Southwestern Cooperative Educational Laboratory (Albuquerque, New Mexico); Southeastern Educational Laboratory (Atlanta, Georgia); and Appalachia Educational Laboratory (Charleston, West Virginia).

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WASHINGTON, D.C. 20202

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APPLICATION FOR RESEARCH SUPPORT

SECTION I - DESCRIPTIVE DATA

TYPE OF PROPOSAL

NEW (Place an "X" here)	04	X
REVISION OF BUREAU NO.	05	
SUPPL TO CONTRACT NO.	06	
CONT OF CONTRACT NO.	07	

TITLE OF PROPOSAL (200 characters and spaces maximum)

08 National Center for Training of Educational Resource
09 Agents to Serve Rural Minorities: Problem Solving
10 Component
11

PROPOSED STARTING DATE (Mo., Day, Yr.) 15: 2-1-71 | 42 months total | PROPOSED ENDING DATE (Mo., Day, Yr.) 16: 6-30-7

PROJECT DIRECTOR

NAME (Last, first, MI)	19	Jones, Lewis
TITLE OF POSITION	20	Professor of Rural Sociology
HIGHEST DEGREE	21	Ph.D
BIRTH DATE	22	3-13-10
TITLE OF ADDRESS	23	Dr.
SOCIAL SECURITY NO.	24	452-42-2765

APPLICANT INSTITUTION

OE USE ONLY 25

NAME	27	Tuskegee Institute
MAJOR SUBDIVISION	28	Resource Development Center
MINOR SUBDIVISION	29	
ADDRESS	30	
CITY	31	Tuskegee Institute
STATE	32	A/A
TELEPHONE (Include Area Code)	33	(205) 727-8341
ZIP CODE	34	36088
COUNTY	35	
CONGRESSIONAL DISTRICT	36	III

OE USE ONLY 39

WHERE RESEARCH TO BE CONDUCTED (If different from above)

INSTITUTION	40	Same
ADDRESS	41	
CITY	42	
STATE	43	
TELEPHONE (Include Area Code)	44	
ZIP CODE	45	
COUNTY	46	
CONGRESSIONAL DISTRICT	47	

SIGNATURE OF PROJECT DIRECTOR — DATE

OFFICIAL SIGNING FOR INSTITUTION

NAME (Last, First, MI)	12	Foster, L. H., Ph.D.
TITLE	13	President

SIGNATURE — DATE

OTHER KEY PERSONS

	NAME (Last, First, Middle Initial)	BIRTH DATE	SOCIAL SECURITY NUMBER
48	Jones, Lewis, Ph.D.	3 13 10	452-42-2765
48	Ellis, Frankie N., Ed.D.	2 11 10	252-60-3761
48	Howze, Glenn R., Ph.D.	6 24 37	450-50-4663
48			

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TYPE OF ORGANIZATION (Check appropriate one)

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Tuskegee Institute

	PRIVATE INSTITUTION		PUBLIC INSTITUTION			
[ ] INDIVIDUAL	[ ] PROFIT	[X] NON-PROFIT	[ ] FEDERAL	[ ] LOCAL	[ ] STATE	[ ] OTHER

NAME OF US OE OFFICIAL PREVIOUSLY CONTACTED ABOUT THIS APPLICATION, IF ANY

Dr. John Egermier and Dr. Lee Burchinal

PROJECT DIRECTOR'S TIME COMMITMENT IF PROJECT IS FUNDED	PERCENT OF TIME	ENDING DATE	FUNDING AGENCY
TEACHING DUTIES (If none, leave blank)	20		
ADMINISTRATIVE DUTIES	0		
RESEARCH IN PROGRESS. TITLE OF PROJECT			
1. Social History of Tuskegee Inst.	30		Russell Sage
2.			
3.			
4.			
CONSULTANT SERVICES	Rarely		
TIME PLANNED THIS PROJECT	50		
OTHER			
TOTAL	100%		

IF YOUR PROPOSAL IS A TRAINING PROJECT, COMPLETE THE FOLLOWING

A. TYPE OF PROPOSAL

[ ] UNDERGRADUATE [X] GRADUATE

[ ] POST DOCTORAL [ ] INSTITUTE

[ ] SPECIAL TRAINING PROJECT

[ ] PROGRAM DEVELOPMENT

B. INSTITUTIONAL ALLOWANCE

1. BASED ON RATE PER TRAINEE

NUMBER OF TRAINEES	RATE	AMOUNT

2. TOTAL INSTITUTIONAL ALLOWANCE

C. TRAINEE SUPPORT

1. STIPENDS

NUMBER OF TRAINEES	STIPEND RATE	AMOUNT
30 trainees for 9 weeks at $75 per week	$75 per wk.	$20,25
SUBTOTAL		$20,25

2. DEPENDENCY ALLOWANCE

NUMBER OF DEPENDENTS	RATE	AMOUNT
60 dependents for 9 weeks at $15 per week	$15 per wk.	8,10
SUBTOTAL		$ 9,00

3. TRAVEL RELOCATION COSTS

4. TOTAL TRAINEE COSTS $37,35

SECTION II- PROJECT COST ESTIMATES

TOTAL PROJECT COSTS (Federal)	
PERSONNEL SALARIES	
EMPLOYEE BENEFITS	
TRAVEL	
SUPPLIES AND MATERIALS	
COMMUNICATIONS	
SERVICES: DUPLICATING AND REPRODUCTION	
SERVICES: STATISTICAL	
SERVICES: TESTING	
SERVICES: OTHER	
FINAL REPORT	
EQUIPMENT	
TRAINEE COST (C4 above)	
INSTITUTIONAL ALLOWANCE (B2 above)	
OTHER DIRECT	
SUBTOTAL DIRECT COST	
INDIRECT COSTS	
TOTAL PROJECT COSTS	

CHECK THOSE BOXES WHICH BEST DESCRIBE YOUR PROPOSAL

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[ ] ELEMENTARY EDUCATION [ ] SECONDARY EDUCATION [ ] HIGHER EDUCATION

[ ] ADULT OR CONTINUING EDUCATION [ ] HANDICAPPED CHILDREN AND YOUTH [ ] VOCATIONAL EDUCATION

[X] EDUCATIONAL RESEARCH AND DEVELOPMENT CENTER [ ] REGIONAL EDUCATION LABORATORY

[ ] LIBRARY OR INFORMATION SCIENCE RESEARCH [X] TRAINING PROGRAM RESEARCH PERSONNEL

[X] EDUCATION AND RESEARCH INFORMATION GATHERING AND DISSEMINATING

[X] OTHER (Specify) Training of Educational Resource Agents

SECTION III - ABSTRACT OF PROPOSED RESEARCH ACTIVITY

TITLE OF PROPOSAL: National Center for Training of Educational Resour Agents to Serve Rural Minorities: Problem Solving Component

PROJECT DIRECTOR'S NAME:

INSTITUTION NAME:

ABSTRACT (This is for inter-governmental distribution. Omit confidential information. 2000 characters and spaces maximum)

69 Tuskegee Institute (TI) will offer the problem solving componen
70 in addition to project management and fiscal functions. Much of the
71 core course content, simultaneously offered on three component camp-
72 uses of New Mexico State University (NMSU) and the University of Nor
73 Dakota (UND), will be composed at TI. The problem solving component
74 rationale (Havelock rationale) embodies: (i) scientific basis of soc
75 action; (ii) scientific knowledge vs. folklore; (iii) acquisition of
76 knowledge via scientific method; (iv) scientific method in the socia
77 disciplines; (v) unitary approach in the social sciences; (vi) objec
78 tive consequences -- functions (dysfunctions; (vii) social systems
79 analysis; viii) cultural process and diffusion. Stress will be give
80 (a) problem identification; (b) stages of problem solving in a schoo
81 client system; (c) role definition in problem diagnosis (d) implemen
82 tation. A four weeks internship will immediately follow the problem
83 solving instruction. Interns will be placed in rural target schools
84 enrolling a majority of black pupils. Component design permits a
85 three summer rotational cycle whereby all participants sequentially
86 complete the component. Attention is paid to participant threat
87 induced by change. Instruction is predicated upon the assumption
88 that rural sociology, education and social psychology can coopera-
89 tively offer the problem solving component by functioning in an
90 interdisciplinary fashion.
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GPO : 1969 O - 363-22

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

APPLICATION FOR RESEARCH SUPPORT

BUDGET BUREAU NO 51-R0694
APPROVAL EXPIRES 1 31 70

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SECTION I - DESCRIPTIVE DATA

TYPE OF PROPOSAL
NEW (Place an "X" here) 04: X
REVISION OF BUREAU NO. 05:
SUPPL TO CONTRACT NO. 06:
CONT OF CONTRACT NO. 07:

TITLE OF PROPOSAL (200 characters and spaces maximum)
08: National Center for the Training of Educational
09: Resource Agents to Serve Rural Minorities:
10: Diffusion Component
11:

PROPOSED STARTING DATE (Mo., Day, Yr.) 15: 2/1/71 | 42 months total | PROPOSED ENDING DATE (Mo., Day, Yr.) 16: 6/30/74

PROJECT DIRECTOR
NAME (Last, first, MI) 19: Krahmer, Edward F.
TITLE OF POSITION 20: Assoc. Prof. of Education
HIGHEST DEGREE 21: Ed.D | BIRTH DATE 22: 1/9/39
TITLE OF ADDRESS 23: Dr. | SOCIAL SECURITY NO. 24: 476-40-1929

APPLICANT INSTITUTION
NAME 27: University of North Dakota
MAJOR SUBDIVISION 28: College of Education
MINOR SUBDIVISION 29: Department of Education
ADDRESS 30: Box 8009, University Station
CITY 31: Grand Forks | STATE 32: N.D.
TELEPHONE (Include Area Code) 33: (701) 777-2511 | ZIP CODE 34: 58201
COUNTY 35: Grand Forks | CONGRESSIONAL DISTRICT 36: I

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25

WHERE RESEARCH TO BE CONDUCTED (If different from above)
INSTITUTION 40:
ADDRESS 41: SAME
CITY 42: | STATE 43:
TELEPHONE (Include Area Code) 44: | ZIP CODE 45:
COUNTY 46: | CONGRESSIONAL DISTRICT 47:

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39

SIGNATURE OF PROJECT DIRECTOR | DATE

OFFICIAL SIGNING FOR INSTITUTION
NAME (Last, First, MI) 12: A. William Johnson, Ph.D.
TITLE 13: Dean, Graduate School

SIGNATURE | DATE

OTHER KEY PERSONS

	NAME (Last, First, Middle Initial)	BIRTH DATE	SOCIAL SECURITY NUMBER
48	Harvey Jacobson	9 9 30	501-28-6087
48	Keith Stamm	3 30 41	373-40-1826
48	Ronald Johnson	1 7 36	470-38-5024
49			

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TYPE OF ORGANIZATION *(Check appropriate one)*

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	PRIVATE INSTITUTION		PUBLIC INSTITUTION			
☐ INDIVIDUAL	☐ PROFIT	☐ NON-PROFIT	☐ FEDERAL	☐ LOCAL	☒ STATE	☐ OTHER

NAME OF US OE OFFICIAL PREVIOUSLY CONTACTED ABOUT THIS APPLICATION, IF ANY

Dr. John Egermier and Dr. Lee Burchinal

PROJECT DIRECTOR'S TIME COMMITMENT IF PROJECT IS FUNDED	PERCENT OF TIME	ENDING DATE	FUNDING AGENCY
TEACHING DUTIES *(If none, leave blank)*	-		
ADMINISTRATIVE DUTIES	15		
RESEARCH IN PROGRESS. TITLE OF PROJECT			
1. State Evaluation, Title III ESEA	25	-	State Edc. Age
2. State Dissemination, Title III ESEA	25		" " "
3.			
4.			
CONSULTANT SERVICES	10		
TIME PLANNED THIS PROJECT	25		
OTHER			
TOTAL	100%		

IF YOUR PROPOSAL IS A TRAINING PROJECT, COMPLETE THE FOLLOWING

A. TYPE OF PROPOSAL

☐ UNDERGRADUATE ☐ GRADUATE

☐ POST DOCTORAL ☐ INSTITUTE

☐ SPECIAL TRAINING PROJECT

☐ PROGRAM DEVELOPMENT

B. INSTITUTIONAL ALLOWANCE

1. BASED ON RATE PER TRAINEE

NUMBER OF TRAINEES	RATE	AMOUNT

2. TOTAL INSTITUTIONAL ALLOWANCE

C. TRAINEE SUPPORT

1. STIPENDS

NUMBER OF TRAINEES	STIPEND RATE	AMOUNT
9 trainees for 9 wks at $74 per week	$75 per wk.	6,075
SUBTOTAL		6,075

2. DEPENDENCY ALLOWANCE

NUMBER OF DEPENDENTS	RATE	AMOUNT
18 dependents for 9 wks at $15 per wk.	$15	2,430
SUBTOTAL		2,430

3. TRAVEL RELOCATION COSTS	3,000
4. TOTAL TRAINEE COSTS	$11,505

SECTION II– PROJECT COST ESTIMATES

	TOTAL PROJECT COSTS *(Federal)*	
	PERSONNEL SALARIES	
	EMPLOYEE BENEFITS	
	TRAVEL	
	SUPPLIES AND MATERIALS	
	COMMUNICATIONS	
SERVICES	DUPLICATING AND REPRODUCTION	
SERVICES	STATISTICAL	
SERVICES	TESTING	
SERVICES	OTHER	
	FINAL REPORT	
	EQUIPMENT	
	TRAINEE COST *(C4 above)*	
	INSTITUTIONAL ALLOWANCE *(B2 above)*	
	OTHER DIRECT	
	SUBTOTAL DIRECT COST	
	INDIRECT COSTS	
	TOTAL PROJECT COSTS	

66

[ ] ELEMENTARY EDUCATION [ ] SECONDARY EDUCATION [ ] HIGHER EDUCATION

[ ] ADULT OR CONTINUING EDUCATION [ ] HANDICAPPED CHILDREN AND YOUTH [ ] VOCATIONAL EDUCATION

[X] EDUCATIONAL RESEARCH AND DEVELOPMENT CENTER [ ] REGIONAL EDUCATION LABORATORY

[ ] LIBRARY OR INFORMATION SCIENCE RESEARCH [X] TRAINING PROGRAM RESEARCH PERSONNEL

[X] EDUCATION AND RESEARCH INFORMATION GATHERING AND DISSEMINATING

[X] OTHER *(Specify)* Training of Educational Resource Agents

SECTION III - ABSTRACT OF PROPOSED RESEARCH ACTIVITY

TITLE OF PROPOSAL: National Center for the Training of Educational Resource Agents to Serve Rural Minorities: Diffusion Component

PROJECT DIRECTOR'S NAME:

INSTITUTION NAME:

ABSTRACT *(This is for inter-governmental distribution. Omit confidential information. 2000 characters and spaces maximum)*

The University of North Dakota (UND) proposes to offer a diffusion component in cooperation with the consortium. Behavioral objectives are used as a basis for component control and evaluation. Faculty personnel from communications, journalism, sociology and education will be utilized in an interdisciplinary fashion. Diffusion subsumes the following elements: (i) nature/scope of diffusion; (ii) dominant change theories; (iii) change within a client system; (iv) intra-personal vs interpersonal communication; (v) effects of diffusion/communication; and (vi) agents of change in diverse school environments Immediate and far reaching changes in schools will be compared. Care will be taken to introduce participants to the major written works and journals within the field. Communication networks/value theories within comparative cultural settings will be observed and inferences drawn. An internship will be held in target schools enrolling a majority of American Indian students. Recap seminars which reflect upon field experience constitute a novel approach to communications review.

GPO : 1969 O - 363-220

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

BUDGET BUREAU NO. 51-R0694
APPROVAL EXPIRES 1 31 70

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03

APPLICATION FOR RESEARCH SUPPORT

SECTION I - DESCRIPTIVE DATA

TYPE OF PROPOSAL

NEW (Place an "X" here)	04	X
REVISION OF BUREAU NO.	05	
SUPPL TO CONTRACT NO.	06	
CONT OF CONTRACT NO.	07	

TITLE OF PROPOSAL (200 characters and spaces maximum)

08 National Center for the Training of Educational
09 Resource Agents to Serve Rural Minorities:
10 Development Component
11

PROPOSED STARTING DATE (Mo., Day, Yr.) 15: 2/1/71 | 42 months total | PROPOSED ENDING DATE (Mo., Day, Yr.) 16: 6/30/74

PROJECT DIRECTOR

NAME (Last, first, MI)	19	Edington, Everett D.
TITLE OF POSITION	20	Assoc. Prof., Head, Educ. Admin. Dept.
HIGHEST DEGREE	21	Ed.D.
BIRTH DATE	22	
TITLE OF ADDRESS	23	Dr.
SOCIAL SECURITY NO.	24	

APPLICANT INSTITUTION

OE USE ONLY 25

NAME	27	New Mexico State University
MAJOR SUBDIVISION	28	College of Education
MINOR SUBDIVISION	29	Dept. of Educ. Admin.
ADDRESS	30	Box-N, NMSU
CITY	31	Las Cruces,
STATE	32	N.M.
TELEPHONE (Include Area Code)	33	(505) 646-2623
ZIP CODE	34	88001
COUNTY	35	Dona Ana
CONGRESSIONAL DISTRICT	36	#

WHERE RESEARCH TO BE CONDUCTED (If different from above)

OE USE ONLY 39

INSTITUTION	40	
ADDRESS	41	SAME
CITY	42	
STATE	43	
TELEPHONE (Include Area Code)	44	
ZIP CODE	45	
COUNTY	46	
CONGRESSIONAL DISTRICT	47	

SIGNATURE OF PROJECT DIRECTOR — DATE

OFFICIAL SIGNING FOR INSTITUTION

NAME (Last, First, MI)	12	Willey, Darrell S.
TITLE	13	Assoc. Dir., Educ. Res. Ctr.

SIGNATURE — DATE

OTHER KEY PERSONS

	NAME (Last, First, Middle Initial)	BIRTH DATE	SOCIAL SECURITY NUMBER
48	Hall, Carroll David, Ed.D.	11 1 33	456-48-8517
48	Wilson, Alfred P., Ed.D.	8 30 37	528-44-3041
48	Buethe, Chris, Ed.D.	12 4 28	506-24-3762
48			

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TYPE OF ORGANIZATION (Check appropriate one)

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New Mexico State University

	PRIVATE INSTITUTION		PUBLIC INSTITUTION		
☐ INDIVIDUAL	☐ PROFIT	☐ NON-PROFIT	☐ FEDERAL	☒ LOCAL	☒ STATE ☐ OTHER

NAME OF US OE OFFICIAL PREVIOUSLY CONTACTED ABOUT THIS APPLICATION, IF ANY

Dr. John Egermier and Dr. Lee Burchinal

PROJECT DIRECTOR'S TIME COMMITMENT IF PROJECT IS FUNDED	PERCENT OF TIME	ENDING DATE	FUNDING AGENCY
TEACHING DUTIES (If none, leave blank)	0		
ADMINISTRATIVE DUTIES	30	permanent	State Gov't.
RESEARCH IN PROGRESS. TITLE OF PROJECT			
1. ERIC-CRESS	50	permanent	USOE
2.			
3.			
4.			
CONSULTANT SERVICES	rarely		
TIME PLANNED THIS PROJECT	20%		
OTHER			
TOTAL	100%		

IF YOUR PROPOSAL IS A TRAINING PROJECT, COMPLETE THE FOLLOWING

A. TYPE OF PROPOSAL

☐ UNDERGRADUATE ☒ GRADUATE

☐ POST DOCTORAL ☐ INSTITUTE

☒ SPECIAL TRAINING PROJECT

☐ PROGRAM DEVELOPMENT

B. INSTITUTIONAL ALLOWANCE

1. BASED ON RATE PER TRAINEE

NUMBER OF TRAINEES	RATE	AMOUNT

2. TOTAL INSTITUTIONAL ALLOWANCE

C. TRAINEE SUPPORT

1. STIPENDS

NUMBER OF TRAINEES	STIPEND RATE	AMOUNT
9 trainees for 9 wks at $75 per week	$75 per wk.	6,075
SUBTOTAL		6,075

2. DEPENDENCY ALLOWANCE

NUMBER OF DEPENDENTS	RATE	AMOUNT
18 dependents for 9 wks. at $15 per wk.	$15 per wk.	2,430
SUBTOTAL		2,430

3. TRAVEL ~~RELOCATION COSTS~~	2,500
4. TOTAL TRAINEE COSTS	$11,005

SECTION II– PROJECT COST ESTIMATES

TOTAL PROJECT COSTS (Federal)	
PERSONNEL SALARIES	
EMPLOYEE BENEFITS	
TRAVEL	
SUPPLIES AND MATERIALS	
COMMUNICATIONS	
SERVICES: DUPLICATING AND REPRODUCTION	
SERVICES: STATISTICAL	
SERVICES: TESTING	
SERVICES: OTHER	
FINAL REPORT	
EQUIPMENT	
TRAINEE COST (C4 above)	
INSTITUTIONAL ALLOWANCE (B2 above)	
OTHER DIRECT	
SUBTOTAL DIRECT COST	
INDIRECT COSTS	
TOTAL PROJECT COSTS	

68

[ ] ELEMENTARY EDUCATION [ ] SECONDARY EDUCATION [ ] HIGHER EDUCATION

[ ] ADULT OR CONTINUING EDUCATION [ ] HANDICAPPED CHILDREN AND YOUTH [ ] VOCATIONAL EDUCATION

[X] EDUCATIONAL RESEARCH AND DEVELOPMENT CENTER [ ] REGIONAL EDUCATION LABORATORY

[ ] LIBRARY OR INFORMATION SCIENCE RESEARCH [X] TRAINING PROGRAM RESEARCH PERSONNEL

[X] EDUCATION AND RESEARCH INFORMATION GATHERING AND DISSEMINATING

[X] OTHER *(Specify)* Training of Educational Resource Agents

SECTION III - ABSTRACT OF PROPOSED RESEARCH ACTIVITY

TITLE OF PROPOSAL: National Center for the Training of Educational Resource Agents to Serve Rural Minorities: Development Component

PROJECT DIRECTOR'S NAME: Edington, Everett D.

INSTITUTION NAME: New Mexico State University

ABSTRACT *(This is for inter-governmental distribution. Omit confidential information. 2000 characters and spaces maximum)*

New Mexico State University (NMSU) and ERIC-CRESS proposes to offer the development component as a major member within a multi-agency consortium consisting of Tuskegee Institute (TI); University of North Dakota (UND); and four regional laboratories: (i) SWCEL; (ii) AEL; (iii) NWREL and (iv) SEL. NMSU's component consists of nine facets: (i) development as a process; (ii) political influence on educational change; (iii) information sources, location and use; (iv) communications within a client system; (v) simplified systems and planning; (vi) performance criteria composition; (vii) product package adaptation; (viii) package application and re-adaptation and (ix) evaluation. The 42 months development rotation program includes: (a) participation in a key staff orientation, Tuskegee; (b) 2 weeks core course giving project gestalt; (c) 3 weeks seminar, product development, SDE P's; (d) 4 weeks on-site internship in American/Indian area schools. Sequential rotation of P's by year insures a similar experience for TI and UND area personnel. ERIC-CRESS will serve as a teaching site, and information documentation site. Cooperative districts enrolling substantial Chicano/American Indian pupils will serve as target school sites.

GPO : 1969 O - 363-220

EXECUTIVE SUMMARY

BRIEFING SUMMARY

New Design for Training

Educational Resource Agents

Prime contractor for operational phase:

Tuskegee Institute
Alabama 36088

Project Director for operational phase:

Dr. Theodore J. Pinnock, Director
Resource Development Center
205-727-8341

Principal Participants in Operational Phase

Institutions	Individuals
1 - National Federation for the Improvement of Rural Education, Atlanta, Georgia	Dr. John E. Codwell, President Atlanta, Georgia
2 - Tuskegee Institute Alabama	Dr. Theodore J. Pinnock, Director
3 - Tuskegee Institute Alabama	Mr. Walter J. Oldham Coordinator of Training Programs
4 - New Mexico State University and ERIC/CRESS, Las Cruces New Mexico	Dr. Everett D. Edington, Director
5 - University of North Dakota Grand Forks, North Dakota	Dr. Edward F. Krahmer, Director Assoc. Professor of Education
6 - Cooperating Regional Educational Laboratories:	
a - Appalachia Educational Laboratory, Charleston, West Virginia	Dr. Benjamin Carmichael, Exec. Dir.
b - Northwest Regional Educational Laboratory, Portland, Oregon	Dr. Ray Jongeward
c - Southwestern Cooperative Educational Laboratory, Albuquerque, New Mexico	Dr. James Olivero, Executive Director
d - Southeastern Educational Laboratory, Atlanta, Ga.	Dr. N. A. Crippons, Deputy Director

Major manpower needs being addressed:

Educational and behavioral science scholars have created a large body of quality information concerning the learner in the rural school setting. Limited amounts of this information have been used by educational technologists to develop improved teaching products. Rural school traditions and conventions are often slow to accept such innovations for practice value. A new social technology embracing problem solving, diffusion, and development holds promise for accelerating the acceptance of innovations. Professors David Clark and John Hopkins, University of Indiana, have established that 1,493 of such social technologists are needed during the period 1970 to 1974. This project proposes to produce required individuals under the emergent job title, Educational Resource Agent.

Unique features of rationale, content, and process of the proposed design:

rationale: to prepare educational resource agents competent in rural community school problem-solving, diffusion and development skills. Effective resource agents require extensive skills in human relations and a working understanding of rural culturally-limited minorities.

content and process: the diverse resources of three higher institutions and four regional laboratories have combined specialties to offer the programs:

1.	University of North Dakota	Diffusion (how does an idea get around?)
2.	Tuskegee Institute	Problem solving
3.	New Mexico State University	Development (conditions an idea or product must meet to be accepted by rural schools)
4.	Appalachia Educational Laboratory	Access to rural Appalachia
5.	Southwestern Cooperative Educational Laboratory	Oral language programs appropriate to Chicanos and Indians
6.	Northwest Regional Educational Laboratory	Trends in rural education
7.	Southeastern Educational Laboratory	Teacher education in rural areas
8.	National Federation for the Improvement of Rural Education	Consultation, research, coordination of regional educational laboratories